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# THE BRICKBUILDER

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NOTICE.—The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.



CHURCH DEL CARMEN,  
SAN LUIS POTOSI, MEX.



# THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN



BY HUBERT G. RIPLEY.

## II.

IN treating of the origin and development of competitions it has been the constant aim to adhere strictly to the truth, not only in all essential matters, but down to and including the smallest detail. Should some of our pet theories not stack up rigidly in accordance with ascertained facts, when analyzed in the cold gray dawn of scientific discovery, pitiless though this calcium searchlight may be, then these theories will be discarded, and something else just as good substituted in their places.

With this thought in mind, everything that appears under this heading has been carefully searched and scrutinized for any errors or misstatements of fact or fancy. To do this a large number of authorities have been consulted, musty old bookcases have been ransacked, and the peaceful dust and cobwebs of many years been rudely disturbed in the eager thirst for truth. After running through a long list of authors on Ethnological, Archæological and Paleontological subjects to refresh our memory here and there, and to check up certain data, we are compelled to take issue with no less a personage than James Fergusson, Esq., D.C.L., F.R.S., M.R.A.S., Fellow Royal Inst. Brit. Architects, Corresponding Memb. Soc. et Tuum., etc., etc. In fact we became all het up reading what he has to say concerning the Turanian Races in the introduction to his History of Architecture.

We remember on an earlier occasion being strongly moved by Mr. Fergusson's book, but that was several years

ago under Professor Homer, and our memories of that time are mingled with varied emotions. What do you think Jim had the nerve to say about the ancient inhabitants of the land of Khem et Mizraim? He called them lacking in the highest moral sense, without literature, phonetic modes of literary expression, despotic in governmental forms, lacking in courtesy to the ladies, and without "those feelings which ennoble man or make life valuable." And then on top of all this he has the effrontery to wonder and be amazed at their "progress" in architecture, painting and sculpture. Why, it was just because they possessed in a very high degree all the qualities that Mr. Fergusson says they lacked, that they were so pre-eminent in art, and their splendid and tremendous remains have lasted untarnished, unequaled, and sublime to the present day.

It makes us violently uncomfortable to come across statements tending to disparage a people to whom we owe the guiding principles of our Art, and to whom we should look with feelings of reverence, veneration and awe. Such reckless and ruthless assertion as are contained in the aforesaid Introduction ought to be refuted with vehemence. The idea of saying that these "people occupied a low position



FIG. IV.

Being page 53 of the architect's specifications for the Pyramid of KHNUM-KHUFU, which even in the mutilated form we see it to-day, illustrates the care with which the architects of the Fourth Dynasty executed their important works. For full translation of the text see appendix B.



FIG. V.

Temple of Khonsu at Karnak from Gailhabaud. This beautiful little gem of the Twentieth Dynasty (1170-1060 B.C.) was the result of one of the most spirited competitions of that epoch. For the intimate details and full particulars see appendix A.

in the intellectual scale." It's monstrous, and yet, on the very same page he (sic\*) admits that a modern English engineer officer blunders in his endeavors to copy works instinctively performed by the ancient Tauranians. Ain't that the limit? Do you wonder at our indignation? No, of course not. Is it not natural that Fergusson's History of Architecture is looked at askance by the average architectural student of our colleges, and that rarely are very high marks given in that course?

The editor of a leading weekly magazine, a charming story-teller, poet, writer, and general all around success, who started to be an architect once, and probably would have been a corker if he had gone on with it, says in a recent book (which should be read by all architects, draftsmen, students, office boys, and pretty stenographers; name of book mailed on request if properly addressed and stamped envelope accompanies the request) that all good architects are frivolous, and that a serious man can be silly at times if he really puts his mind to it. Conversely, a person who has nothing in particular to say, can, by a careful and conscientious study of the dictionary and reference works of various kinds, dope out a line of gush almost worthy of serious consideration. Not for a minute would we disparage the heroic sacrifices that Mr. Fergusson has made to give his book to the world, sacrifices that

must have worked to the detriment of his private practice as an architect, but as between dilettanti, we must believe that he was perhaps misguided and grossly imposed upon, led into erroneous misstatements if you will, when he goes on record as he does about the habits and customs of the ancient Egyptians.

We have seen at what an early stage in the world's history architectural competitions flourished and burgeoned, and how under succeeding dynasties of Thinites, Memphites, Heracleopolites, Hyksos and Theban kings, more perfect programs came to be demanded not only by owners and building committees, but by the architects themselves as a safeguard to their own interests. The people of the Nile valley were the greatest race of builders that the world has ever known and, in spite of this, most architectural histories and works on architecture contain but meager details about them, and a few pages suffice to dispose of their works. In the average history the three great pyramids of Gizeh are mentioned, and a cross section is shown through the tomb of Suphis; Dedendra, Karnak, Philæ and Edfou are hurriedly passed over, and reference is made to the Great Sphinx and a couple of obelisks, and that is about all. Scarcely five per cent of the space in the book is devoted to Egypt. Now this is all wrong. Ninety-five per cent of the space of any work on architecture that pretends to be at all comprehensive should be given over to the various epochs of that hoary land of antiquity; there will still be plenty of room in the

\* This little word "sic" is something we have had our eye on for a long time and this seems to be an excellent place to employ it. As used here it is intended to mean "huh."



remaining pages to give proportionate and proper space to the works of other nations.

Would it not be refreshing as well as illuminating and really instructive, if this were the case? It certainly would, and at some future time we may hope to see this great work undertaken by some master hand, who will awaken the animating spark that shall make to live again the true blending of diuturnity with caducity, which was the touchstone, the *experimentum crucis*, by which esthetic values were measured.

For the present, at least, we must perforce confine ourselves to that portion of the work of those Master Builders that have a direct bearing on the subject of competitions; and to understand and appreciate properly their *phasis*, a knowledge of the climatic conditions is essential.

The soil of the Nile valley is fertile and rich, fish and game abound, the land teems, or did teem in the old days, with the sacred Herpestes, Ichneumon and Ibis, jerba and vulture, monitor and trionyx, haje and cerastes, all in a high state of cultivation; and the great African armadillo was everywhere a household pet and a plaything for the little ones. Fortunately the long spell of good weather that Egypt has enjoyed, perfect days followed by perfect nights for sixty or seventy centuries, has preserved for us in almost their pristine freshness the "very chisel marks of the mason, and the actual colors of the painter on the tombs and temples which were ordered by a Suphis or a

Rhamses," save where some vandal hand has been raised in desecration.

"Musr indeed is gone with all its Rose  
And Jamshyd's Sev'n-ring Cup where no one knows;  
But still a Ruby kindles in the vine,  
And still a Garden by the water blows."

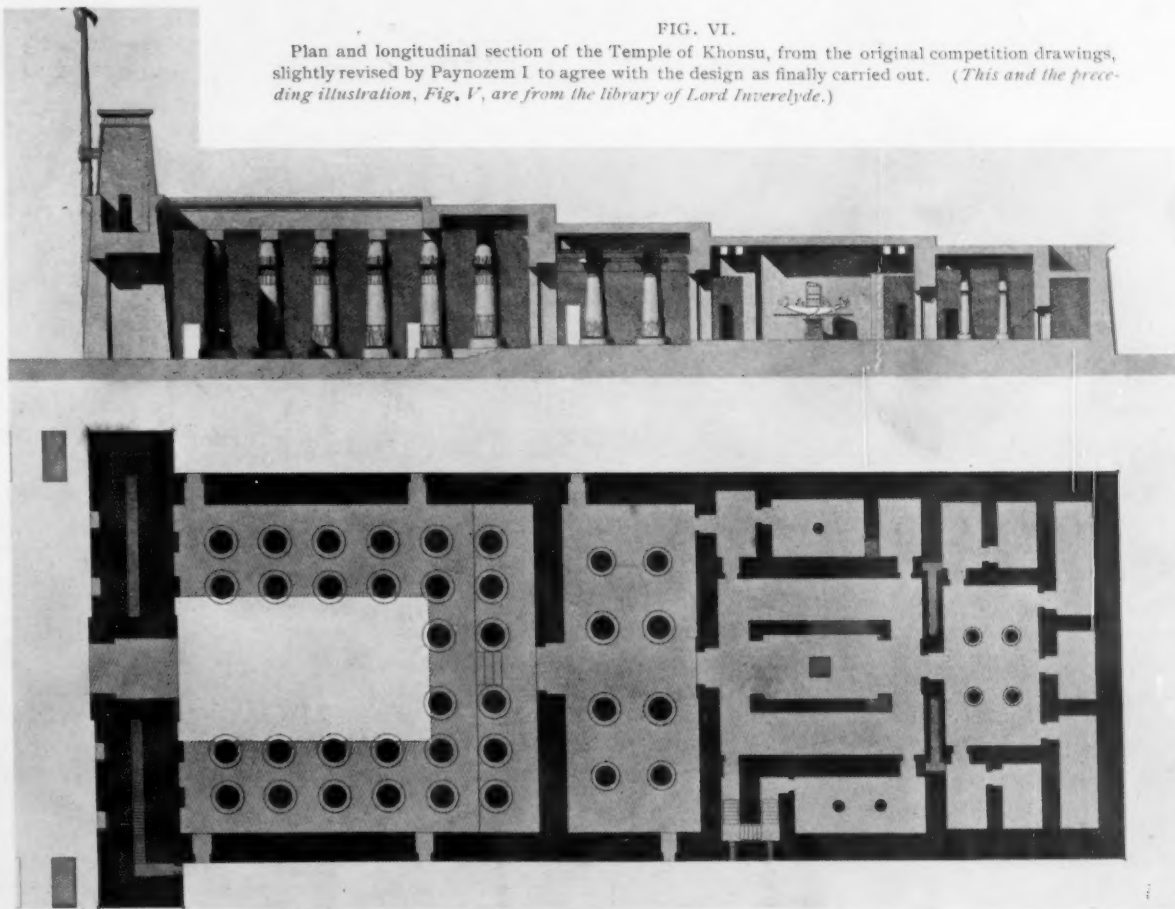
Inasmuch as the Egyptian architects were accustomed to chiseling on stone the drawings and sketches from which their buildings were constructed, the architect was generally a sculptor as well. These master craftsmen and designers were called *ganouatiou*, a word which is assonant with the Greek name for architect.

Toutanou-khamanou, brother-in law of Aï, a Pharaoh who reigned in the fifteenth century B.C., had quite a little problem on his hands in completing the temple to Atonou, which his father had begun on the cost plus a fixed sum basis. It seems that even the large income of a Pharaoh was sometimes seriously threatened by the inroads made in it by certain extravagant ganouatiou when given a too free hand; and as Toutanou-khamanou's father's estate was administered by exacting and Puritanical executors who kept a close watch on all extras, and even refused to approve some of the bills as they were sent in on the first of each month, the ganouatiou was discharged and a provisional successor appointed.

Before the appointment was confirmed, however, the news leaked out through the medium of the Theban News

FIG. VI.

Plan and longitudinal section of the Temple of Khonsu, from the original competition drawings, slightly revised by Paynozem I to agree with the design as finally carried out. (This and the preceding illustration, Fig. V, are from the library of Lord Inverelyde.)



Bureau, and immediately the throne was besieged with a deluge of applications from architects of the very highest professional standing, each asking outright for the job. The executors wavered for a while thinking it might be the best plan to give the work to Gorm & Gorm, a prominent firm who made a specialty of temples, but the pressure was too great and a competition was finally decided upon.

The competitors were divided into three classes: five firms being especially invited and paid the sum of five hundred simoleons\* each, five were selected from the "open field" (the "open field" being a euphonious term signifying a junior or hierophant class of ganouatiuous who really did better work than the older and more solidly established men, or thought they did, which was the same thing), and a third class composed of "all those architects who were in active practice and had established offices in the district of Oxyrynchus previously to Pakhons first, 1543 B.C."

In addition to the sums paid the especially invited architects there were three prizes: the first or capital prize being the commission to design and superintend the erection and completion of the temple, at the established rate of six per cent on the total cost of all contracts, including plumbing, heating, finished grading, sculpture, and decorative work; second, to the architect whose design was judged next in merit, the sum of one thousand simoleons; thirdly, to the author of the next best design, the sum of five hundred simoleons. Furthermore, none of the especially invited firms were eligible to any prize except the capital prize, in which remote contingency any sum paid them was to be considered a sum paid on account of carrying on the contract.

With a few exceptions, the verbiage of the program for the competition for the selection of an architect for completing the temple to Atonou, district of Oxyrynchus, Middle Egypt, is much the same as similar documents are to-day, which sustains our contention that competitions have not varied greatly during the past thirty-five hundred years.

\* A simoleon was the ancient Egyptian coin which was very nearly the equivalent of our dollar, or 97.0000007 cents.

It would be both interesting and instructive if we were able to show by illustration the result of this competition, but, unfortunately, in this case, not only the program itself, but likewise the competitive drawings, were made on papyrus, and all traces and vestiges of them have long since perished. The Alexandrine Library had them for many years in its coffers, and it is from that source that these bald statements of fact are taken.†

The Egyptian was never hasty in his work. Being accustomed to seeing monuments and works of art on all sides that had stood the test of time, weathering the sunshine and storm of four or five thousands of years (the earlier the period the finer its esthetic qualities), he had instilled into him the basic principle of slow development, and an abhorrence of weird and barbaric, *i.e.* alien, forms and details. Never will you find either in their executed work, or in any of the illustrations in the architectural journals of those days, a trace of another style, or a tendency to "do something in Gothic" or dabble in "Art Nouveau." There was always plenty of time to do full justice to the problem, to study it thoroughly and build substantially and of the very best materials; thousands of years behind him and thousands of years to come. Now these centuries have melted away in the crucible of time, other centuries have followed them and their work still stands. Can you beat it?

The most valuable heritage that Egypt has left us is that impalpable, indefinable something, that *je ne sais quoi*,

that *n'importe quelle chose*, that Mr. Bragdon has called "the fundamental rhythm of nature." To be sure he is in error when he places this "precious tincture — cherished in her brooding bosom for uncounted centuries" — in Asia; but many writers are apt to be a little careless in their statements.

The place where this thing first occurred was not in Asia, Claude, believe me, but in the Nile valley, compared with which the valleys of the Euphrates and the Ganges are quite modern and handseled.

† We are indebted to Lord Inverclyde, whose hospitable roof contains many authorities rich in material most needed, for much of the data herewith given, and who has placed his collection containing works of rare interest freely at our disposal.



FIG. VII.

In this powerful modern building the influence of the Turanian mind is plainly evident. Mass and detail fairly exestuate the spirit of Khonsu, Thoth, Baal and Ashteroth.



## How Architects Work.

D. EVERETT WAID.

## III. — OFFICES OF NOTED ARCHITECTS.

A VISITOR to Mr. Freedlander's office steps from the elevator directly into the entrance hall, where the white painted trim, plain walls of dark cream colored fabric, and old red rug on the floor, express quiet good taste. The client cannot fail to be impressed by the display of framed photographs of executed work which fairly cover the walls. In the equally unpretentious private office there is a flat top desk, and in one corner Mr. Freedlander's own designing board and on the walls some rendered drawings. This private workshop and consultation room, commanding a view from a Fifth avenue corner, is more retired than is usual in a medium sized office

in hand. Each set is clamped between two half-round strips of wood which form a neat 1-inch round binder, agreeable to handle and easily replaced on the notched horizontal supports. Tracings and other drawings of current work are kept in the large cabinet of drawers while drawings of finished buildings are filed above in paper tubes. Architectural journals are filed in open shelves at one side of the drafting room and drawers below house supplies. The working library is located in Mr. Freedlander's private office.

A visitor of Mr. H. Van Buren Magonigle's may possibly discover on the wall opposite the entrance to the outer



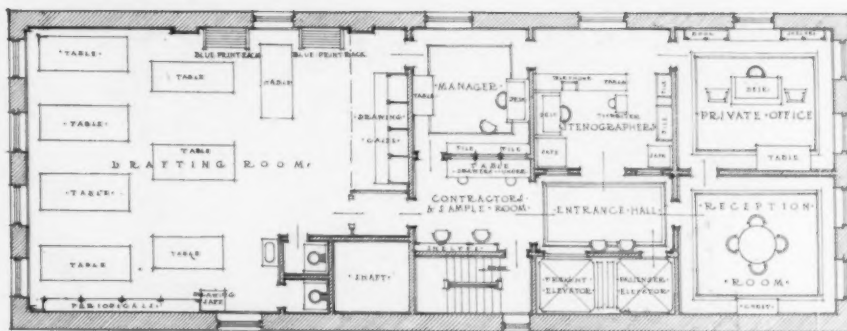
DRAFTING ROOM.



PRIVATE OFFICE.

for the reason that Mr. Freedlander has a manager who meets callers and looks after the general office business, correspondence, etc. As the plan indicates, the private office can be reached easily from the drafting room, the manager's or stenographer's rooms and the reception room, without passing through the entrance hall. One is tempted to ask whether the stenographer and manager would not like to have their desks nearer the windows. The "circulation," however, is good and the compact and convenient arrangement seems to result in an orderly, expeditious conduct of business.

The plan and photograph together show clearly the filing end of the drafting room of this office. Racks at either side of a window support office sets of blue prints of work



OFFICES OF J. H. FREEDLANDER, 244 FIFTH AVE., NEW YORK CITY.

office a dainty little notice which reads "Mr. Magonigle cannot be seen after 12 M., except by appointment."

Our host beamingly greets us in the afternoon, remarking that this sign is one of the inflexible

rules of his office, and further that all inflexible things are breakable.

This outer office, by the way, has dark green walls trimmed into panels with brown oak. The thin partitions are 7 feet high of 2-inch studs covered both sides with compo board painted and crowned with an oak wainscot cap moulding. The office manager or head draftsman, in this case a real "right-bower," has his desk between the stenographer and the telephone and in one step he can deal with a casual caller over the counter and get away

quickly without being followed. This counter is a good substitute for the custom followed in some wise offices of always going outside to see a visitor and thus by being able to retreat saving a half hour each time a considerate material man insists on having his stuff specified.

The plan of the drafting room cannot give a full idea of the closets stored with all the supplies needed or imagined for real work or competitions; nor of a utility cabinet which would make envious the eyes of other draftsmen. The latter is a board possibly 3 feet square hung on the wall, supporting in orderly rows, on hooks, hammer, screw driver and other office tools, rubber stamps, etc., and along the bottom two tiers of trays full of brass fasteners, tacks, screws, rubber bands, and the numerous other things always wanted and always wanting in an architect's office.

If you are planning an office Mr. Magonigle would tell you that he needs more space for filing drawings. One bit of experience in his drafting room may give a new idea to the reader:—Some of the drafting tables are lowered to a height making it convenient to use ordinary chairs instead of stools. When you think of the angle of light entering the top of a window, the part of the drawing board 8 feet from the wall will be perceptibly better lighted if 28 inches high instead of 42.

This drafting room has a shelf 3 feet high all around the walls, a convenience appreciated by every draftsman. The walls too are lined with compo board to facilitate the tacking up of drawings. One useful feature seen here and in other architects' offices is a plainly marked line of dimensions laid off in feet and quarters across the room on a beam and also on the wall from ceiling to floor.

While we have been lingering in the drafting room our

photographer has been busy taking a corner of the private office posed for our especial benefit. Our host is one who does things himself and enjoys the liveliest pleasure in active touch with every phase of his work. We may see

his desk in the corner covered with evidences of business and the walls above it hung with his own creations and some examples of the artistic ability of Mrs. Magonigle, or we may turn and find a table at the window which is now the center of a private conference, and again the support of his own designing board. On one wall is an interesting grouping of plaster cast medals, — some ancient and some products of his own efforts in that line. Across one end of the room open book shelves house

the architectural library, and the interviewer's glance in that direction brings forth Mr. Magonigle's opinion that the best bookcase for an architect's valuable volumes is one arranged to

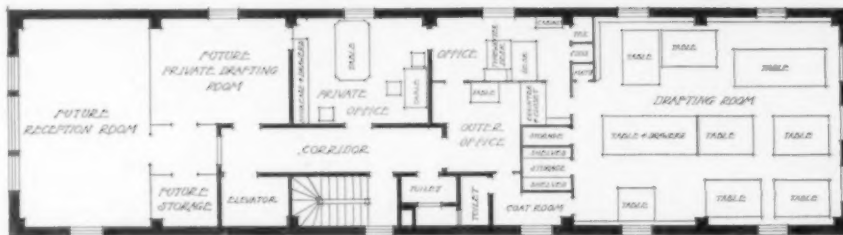
receive the books flat and with shelves so spaced that only two or three volumes rest on any one shelf. We have not failed to notice that the trim and furniture of this little studio are dark brown oak, that the walls are covered with brown cartridge paper, the frieze and ceiling are white and that the rug is yellow and green.

Turning now to the office of Messrs. Delano & Aldrich we find that that firm occupies parts of two stories of a business building in addition to the full story in which the drafting

room and general office are located. A dozen men occupy every foot of the drafting room which has top north light in addition to the four windows. The whole office has a busy aspect which betokens a large amount of work turned out in proportion to the space occupied. Upon first entering the general office one beholds a telephone switchboard and an active table ready for the



DRAFTING ROOM.



OFFICES OF H. VAN BUREN MAGONIGLE, 7 W. 38TH ST., NEW YORK CITY.



PRIVATE OFFICE.

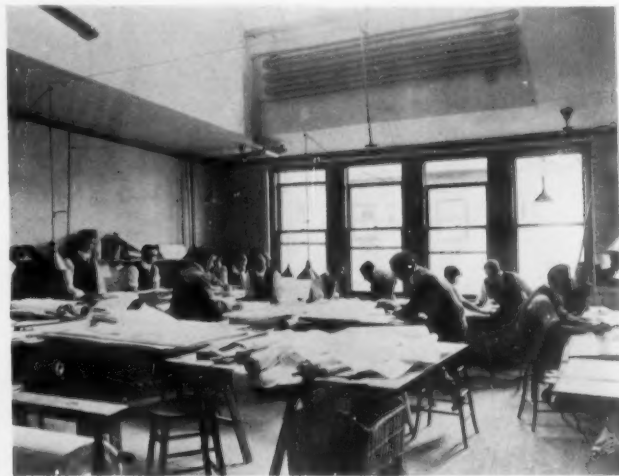


issuance and receipt of drawings. The sample room is in reality a designing room for two, and not until one is within the reception room does he find a quiet, contemplative atmosphere. The walls are large panels of old mural paintings framed in oak. Two sections of the open bookcases are closed with elaborately carved doors and a beautifully carved old table rests on a fine oriental rug. The walls of the general office and a 3 ft. wainscot in the drafting room are covered with paper which appears to be oak veneer. Passing upstairs we find two rooms for

general scheme and the detailed relation of the minor but necessary parts, even to the telephone switchboard. The reader will be interested, however, in the aspect of that portion of the office which is intended to meet the client's eye. As he enters from the public hall he passes through an arched private corridor into the waiting room, both of which are treated in white which gives them a bright, cheerful effect, even though they are dependent upon artificial light. The large table and chairs and the doors are mahogany. The reception room is very large and



RECEPTION ROOM.



DRAFTING ROOM.

the respective members of the firm, furnished with tables, desks and telephones. One has a low black wainscot, a black marble mantle and paneled plaster walls. The other has an Italian marble mantel of old New York residence design and the walls are paneled with wood mouldings applied to the plaster and all painted gray.

In the story below the reception room are to be found the stenographer's

room and a room for specification writing and the superintending end of the office. An interior telephone system reduces to a minimum any need for traveling from floor to floor on the part of the office force.

One of the large offices in New York is that of Messrs. Trowbridge & Livingston. The plan shows clearly the



seems impressively spacious with its five big windows opening on a Fifth Avenue corner. A plain brown grass rope rug lies on the floor, the furniture and trim are mahogany, the walls are covered with a smooth-finish, close-woven fabric of a brownish yellow tint, the frieze and ceiling are white. Two or three plaster models of such buildings as the new "Banker's Trust" are interesting features of the room.

There is a glass front, high-legged bookcase at one side and above it a magnificent moose head, one of Mr. Trowbridge's trophies. A few photographs of the firm's executed work may be seen. We now glance through open connecting doors and gain a vista from the reception room clear through Mr. Livingston's room. The

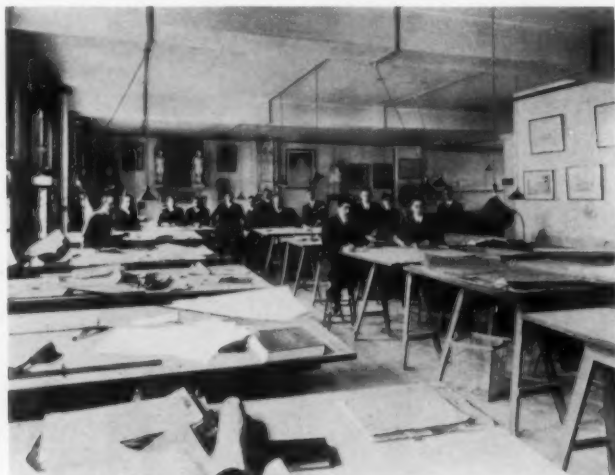
effectiveness of these three large rooms *en suite* is due to the fact that the color scheme, furniture, trim and all of the reception room are continued through the three. The grass rope rugs in the two private rooms as an exception are green with plain, dark border and a lighter field. Mr. Trowbridge's room seems a not unusual office as to its flat top desk in the middle of the room, a table and some chairs (not forgetting a holder for his never forgotten cane), but the walls attract our attention. There are hung in unconventional manner photographs of ancient masterpieces of architecture. On one wall is a grouping of fine Egyptian photographs, on another a collection of Grecian, and again of Roman. We may see also here and there some excellent Japanese prints and photo-

graphing boards hangs along the chair rail. Each one is for a particular building and holds a bunch of sheets of memoranda. These sheets, called in some offices "memo-records," are derived from interviews with clients, instructions in letters from clients, extracts from minutes of building committees, or information from any source which may affect drawings or specifications or the execution of the work. These memo-record sheets are written in quadruplicate and one copy is sent immediately to each member of the firm, one to the specification writer, and one to the head draftsman, so that each is kept *au courant* daily with new facts regarding every piece of work in hand.

From the accompanying illustrations of the various offices, planned in most instances by the architects them-



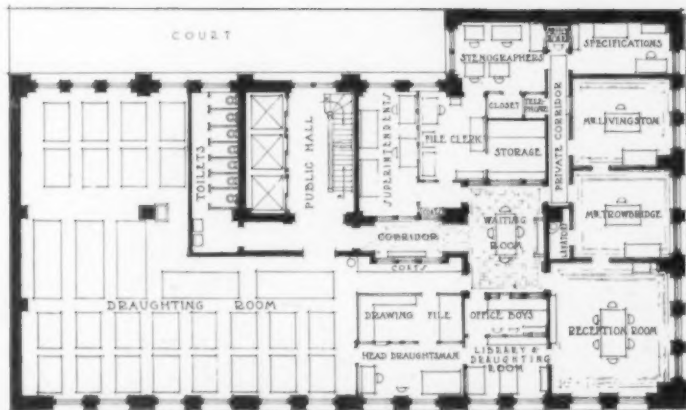
RECEPTION ROOM.



DRAFTING ROOM.

graphs while on the desk stands a paperweight, — a miniature model of a Japanese gateway. Not the least interesting of the wall decorations of this room are additional trophies of the sportsman, including some almost unbelievably big, speckled beauties mounted and framed so that they are swimming in a sea of birch bark. Space will not permit recounting here their wonderful tales, — even two tails, caught at one famous cast. Mr. Livingston's room is similar to that of his partner as before remarked, but the photographs on the walls are chosen from a modern period.

Little need be added to the story told by the plan as to the relative location and accessibility of the various members of the office force and all that a convenient arrangement means in the conduct of such a volume of business as is here carried on. In the room of the specification writer is to be found an item of the routine of business interesting to small offices as well as large. A row of clip-

OFFICES OF TROWBRIDGE & LIVINGSTON, 527 FIFTH AVE.,  
NEW YORK CITY.

selves, one is impressed with the natural combination of the practical with the esthetic. The result of such planning not only provides an atmosphere of helpfulness and inspiration to the architect himself and his co-workers, but also impresses the client with a deeper appreciation for the ability of the artist whom he has selected to design the work contemplated by him.

The uppermost thought is to produce a unity of expression through the medium of material substances. Such an effort is always more or less influenced by the natural requirements as well as historic precedents.

Since art is a product of genius and imitative qualities, the architect must necessarily surround himself with conditions both inspiring and creative. This he accomplishes by making his library a source of valuable information, his office and reception room restfully attractive, and his drafting room extremely practicable. Such an atmosphere is conducive to the broadening influences of pure architecture.

## The Hilliard Building, New York.

HOWELLS & STOKES, ARCHITECTS.

"TERRA COTTA NEW YORK" will soon be a common expression among architects and builders. How many of us ever stop to appreciate the important place architectural terra cotta occupies in the vast commercial edifices of to-day? Few, if any, traversing the business section of New York City realize that nearly fifty per cent of the visible building material is terra cotta. The progress for the last two decades has been a gradual and consistent growth. And this steady inroad of "cooked earth"—technically known—has been practically a silent progression which bespeaks for the future an unprecedented prosperity in its history.

Only in recent years have we begun to understand the possibilities of terra cotta. We have prejudiced ourselves against its constructive and decorative qualities. We have thought of it as a new substance when in reality it is the oldest manufactured material recorded. We have feared for its fire resistance and durability in spite of the fact that it is the one substance practically indestructible and absolutely fireproof. But facts change opinions and opinions change conditions. In addition to the qualities of terra cotta just mentioned we find that its lightness and its great resisting strength has made it of inestimable value in the construction of public buildings.

An excellent example of the use of terra cotta in an artistic and practical manner is demonstrated in the Hilliard Building located at the corner of John and Dutch streets. This building stands on the slight elevation known in Revolutionary times by the euphonious name of the Golden Hill, and it is still

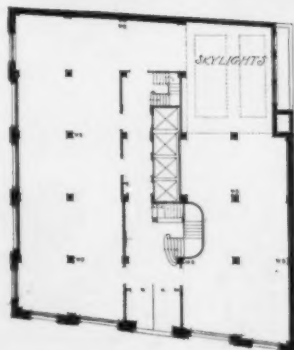
so called. It is the site of the battle bearing that name where the first man fell upon this continent to the great cause of Freedom. It was on Friday, January 18, 1770, some two months prior to the famous Boston Massacre,

that the soldiers cut down and blew up Liberty pole, which commenced the fight.

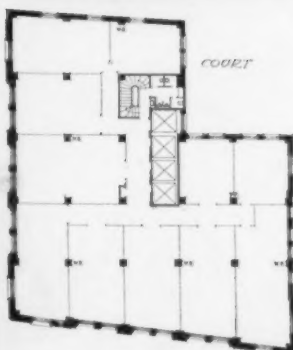
The Hilliard Building furnishes a pleasing expression of brick and terra cotta judiciously blended. The body of the building is of mottled Roman brick of four distinct selected shades, and terra cotta of a warm gray buff appearance. Realizing the ingenuity necessary in mixing the clays so as to produce the required tone when baked, one is more than impressed with this harmonious color effect.

The design is remarkable for several things, among others the skilful way in which it has been handled as a whole. The dominant feature is the towerlike treatment of the mass with its pyramid crown. This, by the way, is an ingenious contrivance which performs many functions; within it are the water tanks safe from possible freezing under the varying changes of this remarkable climate, so preferable to the hideous wooden barrels accenting the top of every office, department store, and loft building. Here also is to be found the machinery for the elevators and many other comforts for the tenants.

The terra cotta panels of classic decoration at the fourth story are elaborately moulded, portraying the skill of delicate workmanship. The panels while of considerable size are carefully executed in detail and low relief and maintain both the scale and refined feeling that pervades the whole structure. The surface of

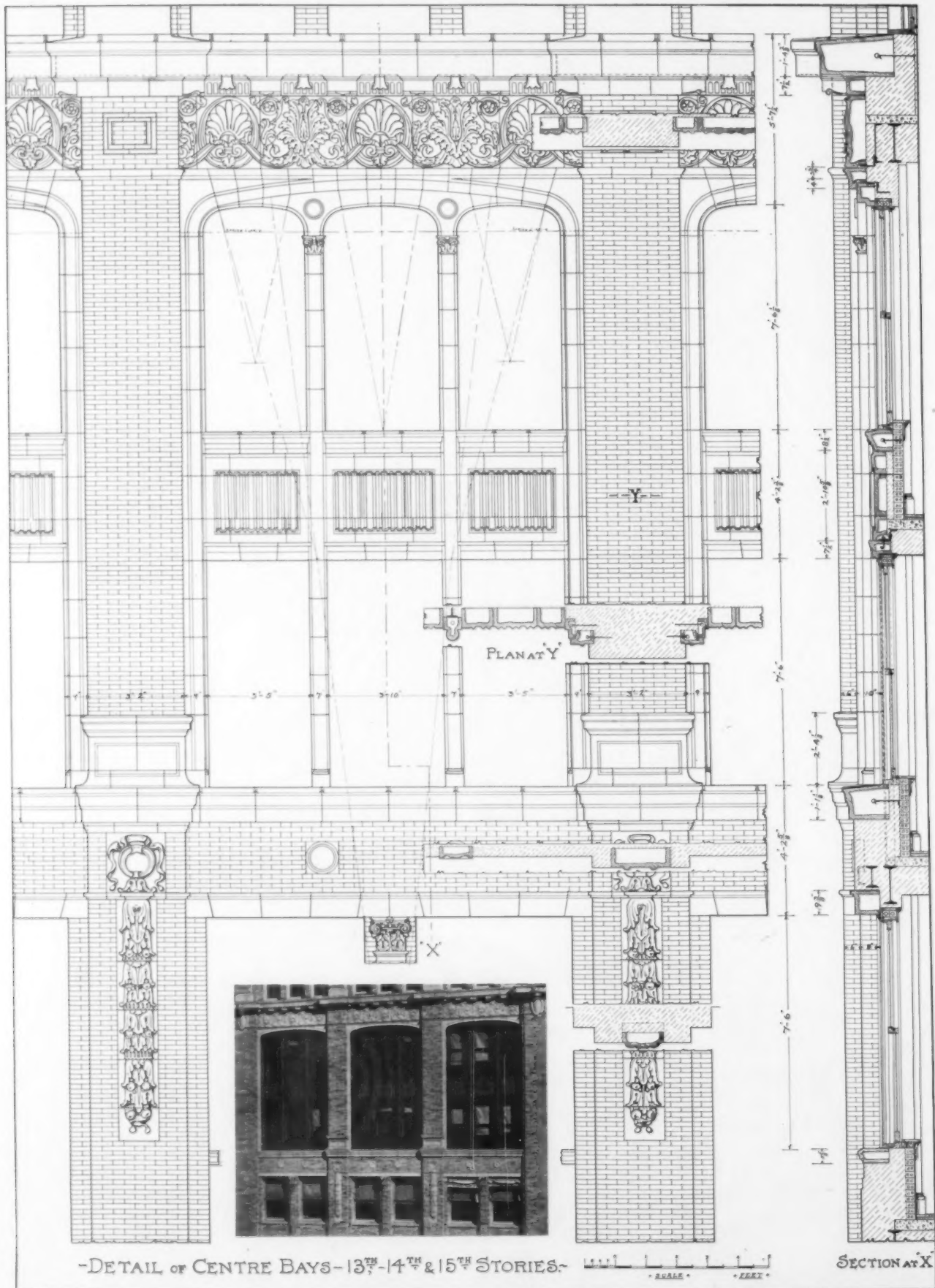


FIRST FLOOR PLAN.



TYPICAL FLOOR PLAN.

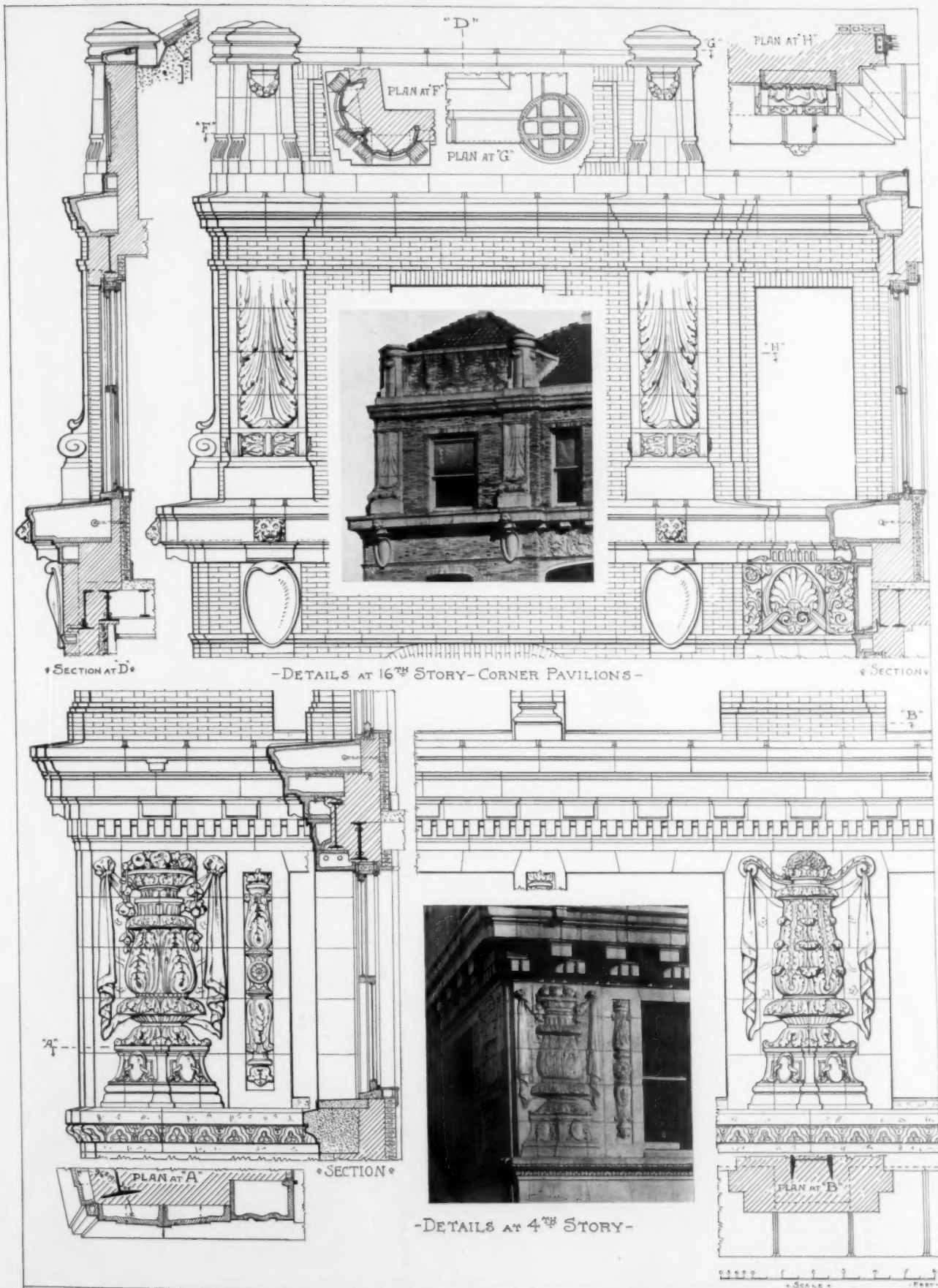


-DETAIL OF CENTRE BAYS-13<sup>TH</sup>-14<sup>TH</sup> & 15<sup>TH</sup> STORIES-

Terra Cotta Details.

HILLIARD BUILDING, NEW YORK CITY.

Howells &amp; Stokes, Architects.



Terra Cotta Details.

HILLIARD BUILDING, NEW YORK CITY.

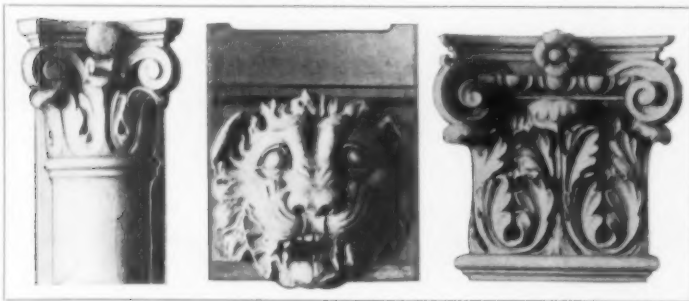
Howells & Stokes, Architects.



FRIEZE AT 16TH FLOOR.

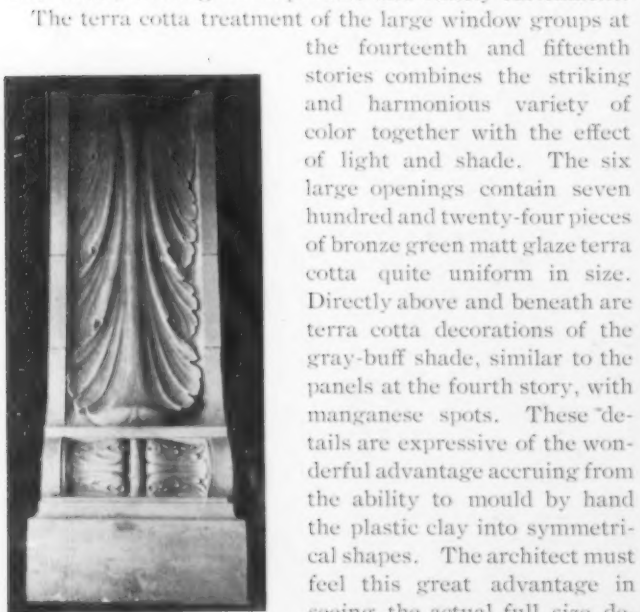
this terra cotta has a wonderful richness which, when combined with the delicate elaboration, illustrates its use for decorative panels and bas-reliefs.

The architects in these panels have given us a beautiful



MISCELLANEOUS TERRA COTTA DETAILS.

example of fine drawing, delicate modeling in low relief which is of singular charm, such as is found in the work of Alberti in his Mantuan church of Rimini. The composition is quiet in character and easy in movement; it is subtle, having a well-balanced composition singularly adapted to the material. The relief is low, yet it invites light and shade, forming an important and stately enrichment.



CONSOLE AT 16TH STORY.

while still in a moist plastic state.

The terra cotta adorning the sixteenth story and the finials above maintain the low and pleasing standard of

relief. The adaptability of the burned clay for architectural decoration is here carried to a very high point of perfection in its ornateness and dignified character. The cornice, moulded courses and other ornamented features have been studied with very slight projections in order that the eye may travel from the ground to the roof with little or no interruption.

The building calls for the housing of insurance and real estate offices. Being a purely office building the one great problem of planning presented is that of obtaining the maximum amount of

space for office use upon the interior. The most modern office facilities necessary for an up-to-date building in this locality have been employed. The main entrance hall is sixteen feet in width with wainscot of Italian marble, trim of Philippine mahogany, and marble staircase connecting the first and second floors. The trim of the first two floors is of Philippine mahogany while that throughout the remaining part of the building is of quartered oak.

The Hilliard Building reveals in a dignified manner the practical uniformity in composition and texture of terra cotta as well as in the color and tone of the finished work. It is one of the living examples of the perfect harmony that may result from the use of brick and terra cotta.



PENDANT AT 13TH STORY.



DETAIL OF FIRST FOUR STORIES, MAIN FAÇADE.



## Della Robbia Room, Hotel Vanderbilt, New York.

WARREN &amp; WETMORE, ARCHITECTS.

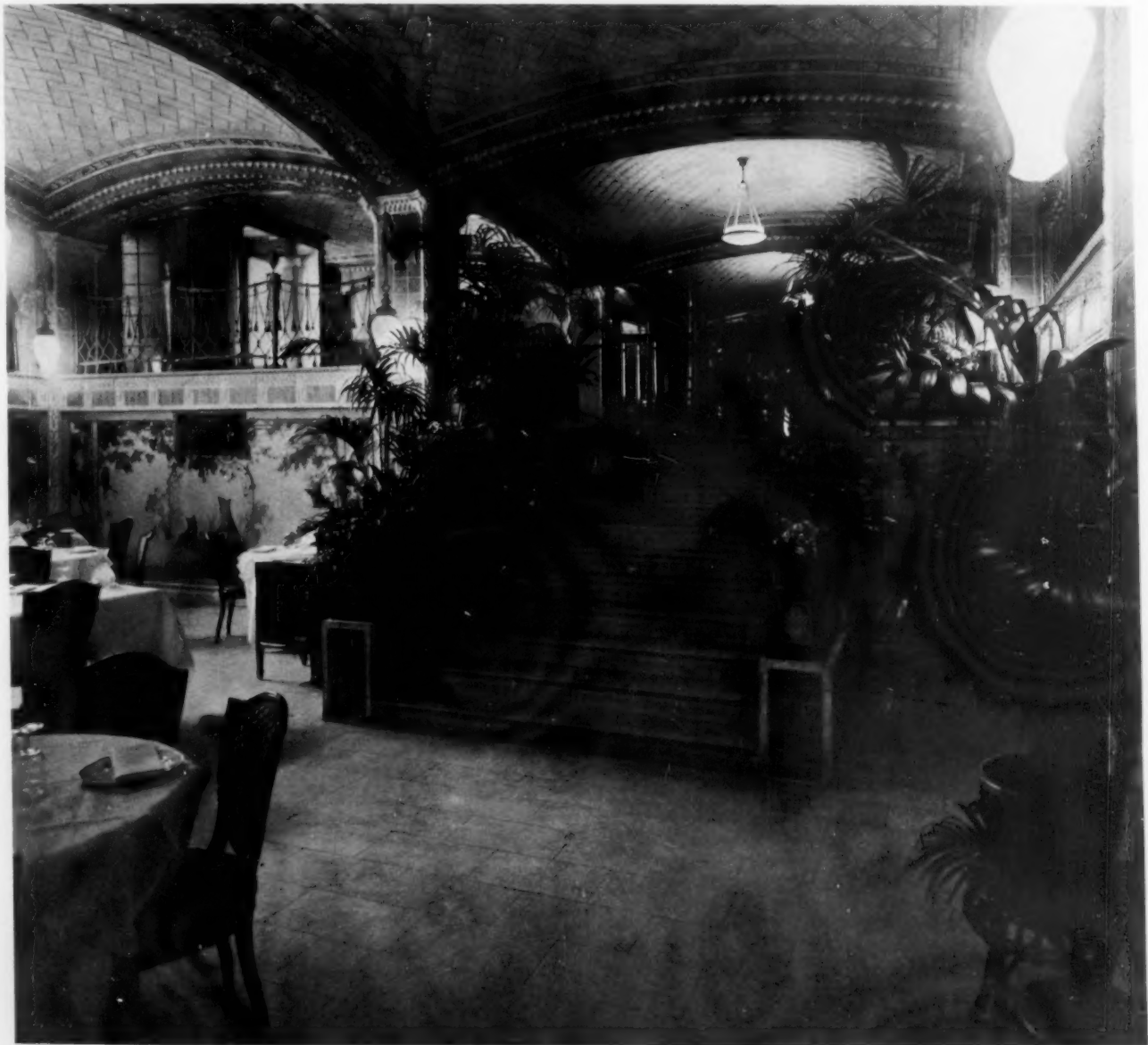
SAMUEL HOWE.

THE visitor is somewhat startled for the moment on reading the title instead of the usual word Grill Room, which by the way appeared upon the original plans. The change, we may say the elevation, of the title is, however, amply justified. It is well named, and it is no little triumph to modern ingenuity and skill that this particular mode of construction presented in so rich and decorative a form has been adopted in a hotel to-day.

For a short time the temptation was — so it seemed — to design a type of decoration which would involve the more usual environment, to panel the walls with wood in some

fashion. But the architects abandoned that, determining to cling tenaciously to the exalted idea that nothing should enter the place that was not proof against disastrous fire. The result and the wisdom of that change is to be seen to-day in a most acceptable manner. It is doubtful if this continent shelters just such another example of ceramic ingenuity and perseverance, which at the same time is sternly structural. Of the Guastavino system of vaulting we have had many examples, and some of them show distinctly the wisdom of adding color and glaze.

There is scarcely anything new in this form of construc-



MAIN ENTRANCE LEADING DOWN FROM PARK AVENUE.

tion. The student of Spanish and Italian architecture recognizes very well the Oriental influence in the ribs and vaultings of many of the old churches, drawings of which are to-day to be found in the libraries of all large cities. Possibly one which at the moment is particularly worthy of study is the great church at Assissi, built in memory of San Francesco. These ribs, borders, surround the glorious paintings of Giotto and Cimabue. The architect

gether with an interesting glaze thin and transparent. It is of a grayish-green tone which reflects light by virtue of the corrugated nature of the ornament. It is 12 inches long by 6 inches wide laid herring-bone with white joints.

All tiles used in vaulting are fully glazed. The tiles and faience forming cap and angle borders to piers are dull or matt glaze. (B) Border of the same material turquoise



BALCONY WITH MEZZANINE AND DETAIL OF VAULTING.

of this church is unknown, but he left behind him a great tribute to his practical acceptance of Oriental enrichment. It was built in 1228, and here we are to-day struggling with very much the same type of decorative problem.

The following letters indicate in brief the color of the tile and faience: (A) The main body or field of the vaulting is from the usual Guastavino system of timber arch construction to which a fret design has been added to-

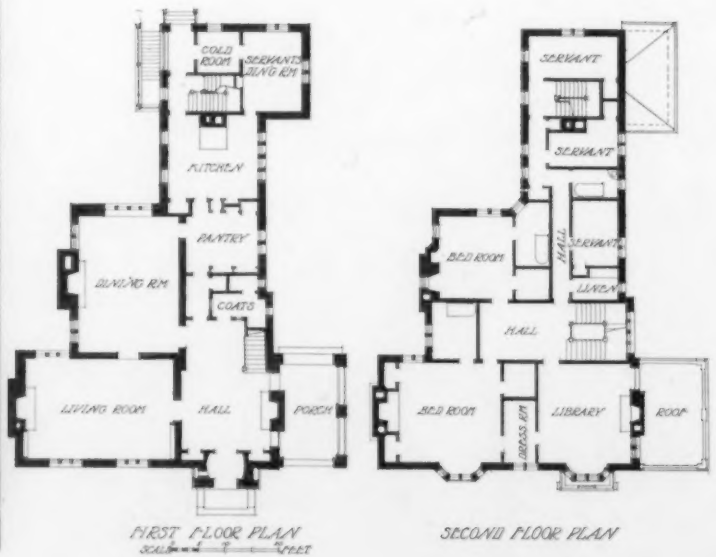
blue in color. (C) Cream color tile. (D) Is a border which is somewhat unusual, consisting as it does of rosettes at set intervals of a cream color. They are in high relief. Between them alternating are countersunk panels surrounded by a border of white which is raised in relief. The panels are of bright color—red, turquoise, and yellow respectively. (E) A moulding cream color tile. (F) Dark blue tile. (G) Rope moulding, which is built into the vaulting, keyed as it were and made very secure. (H) Dark blue







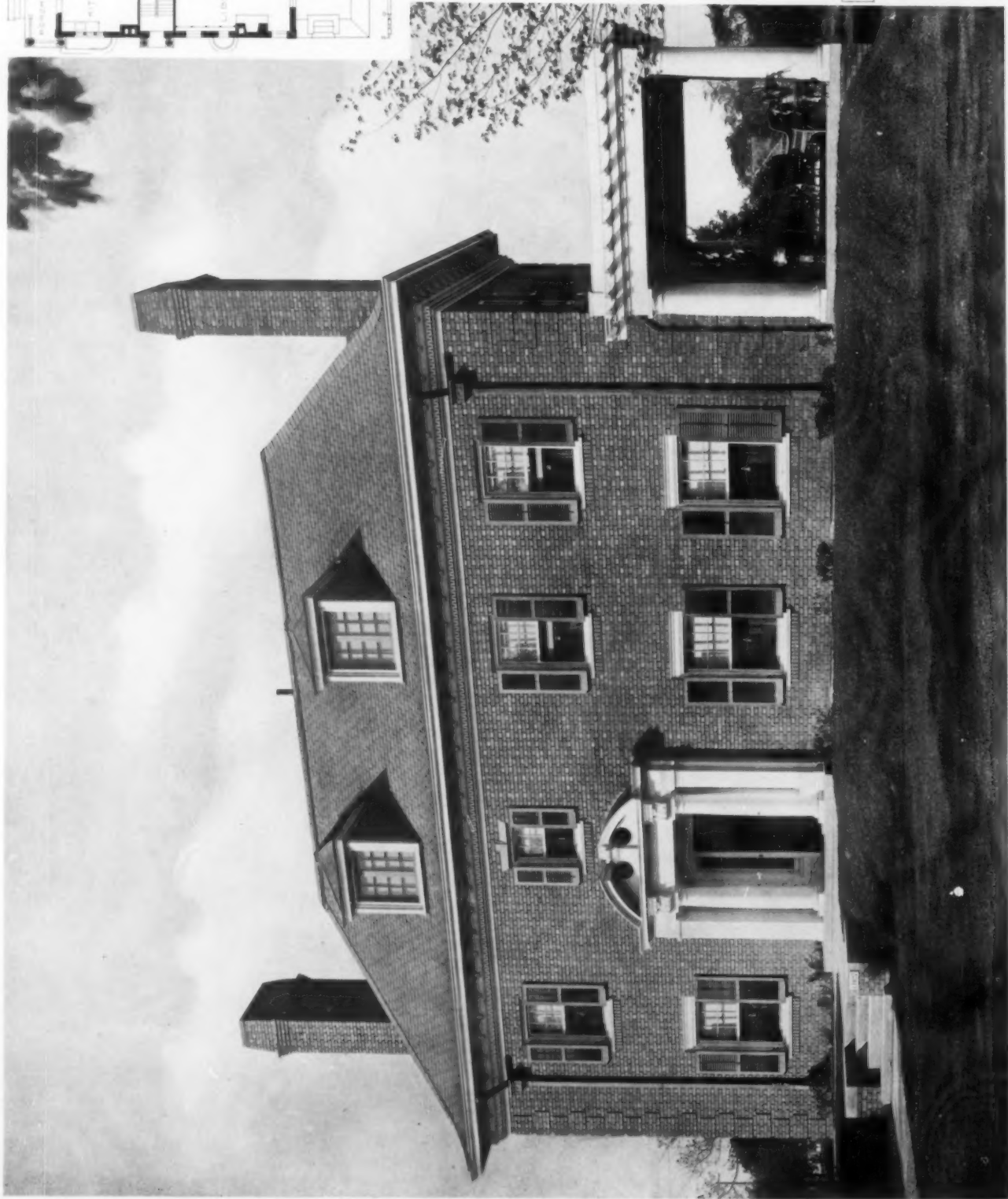
HOUSE AT ST. LOUIS, MO.  
COPE & STEWARDSON, ARCHITECTS.







HOUSE AT  
CLEVELAND, OHIO.  
FRANK B. MEADE,  
ARCHITECT.



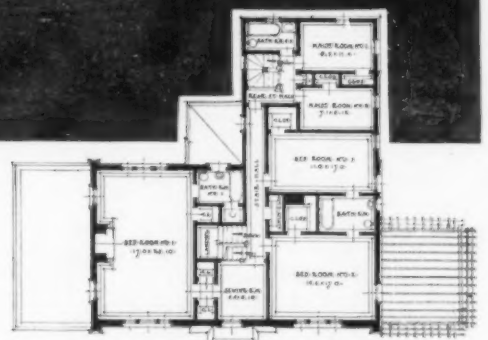






FIRST FLOOR - PLAN

HOUSE AT GARDEN CITY,  
LONG ISLAND, N. Y.  
AYMAR EMBURY II, ARCHITECT.



SECOND FLOOR - PLAN

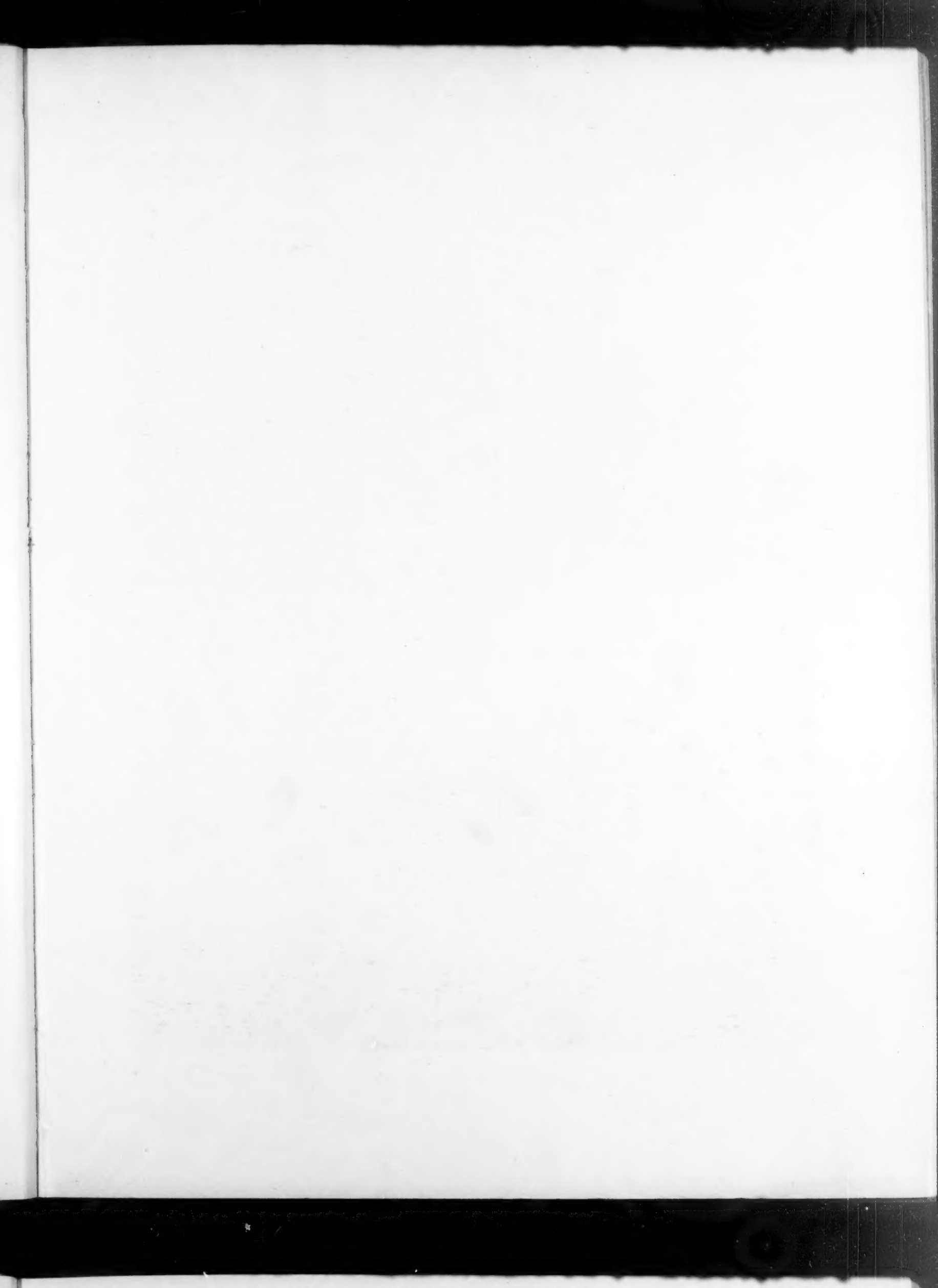


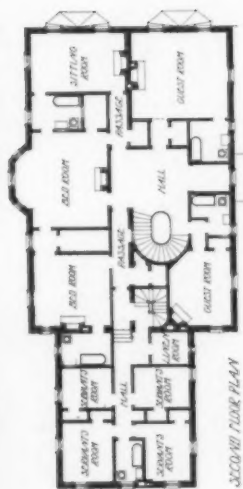
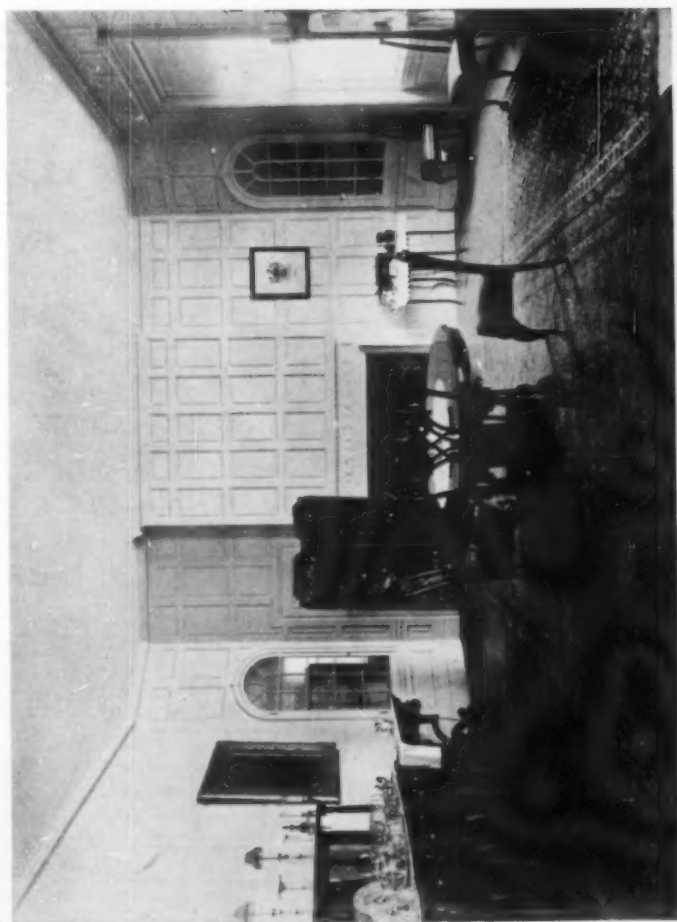
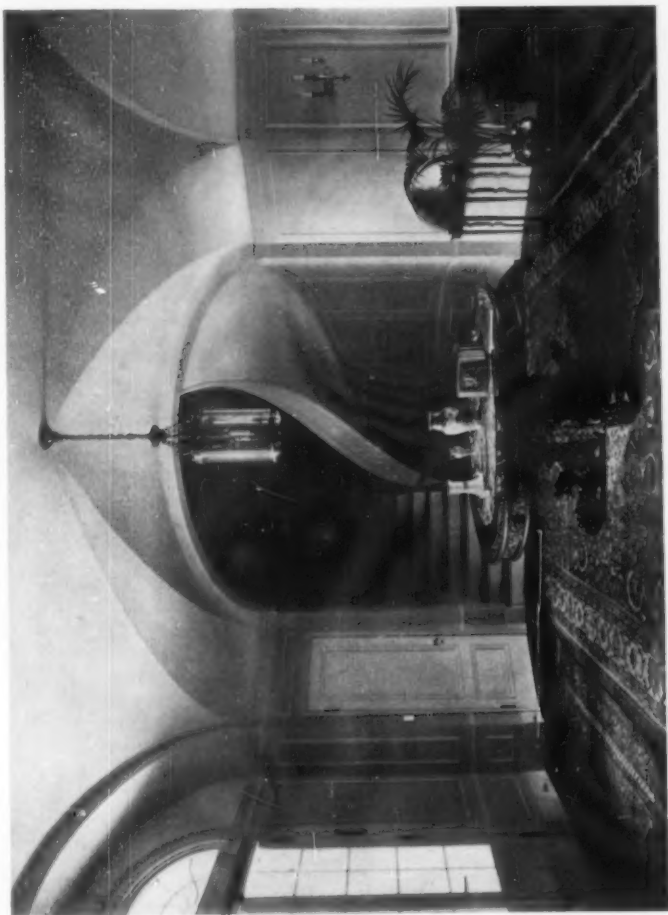




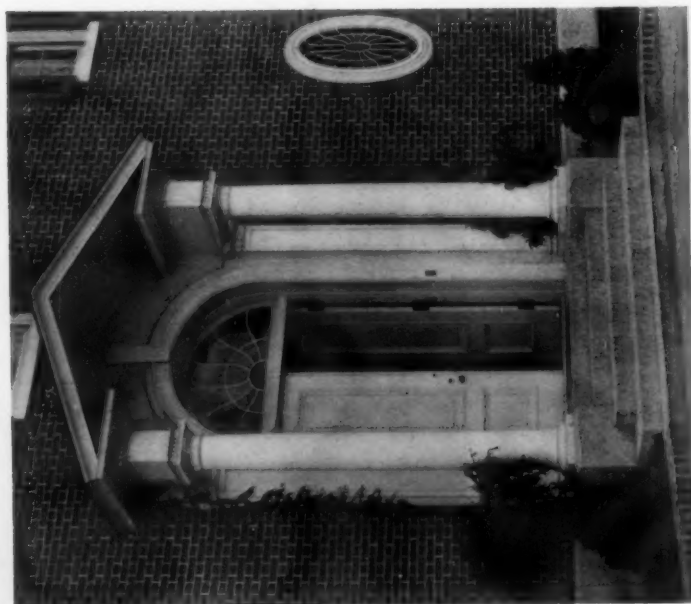
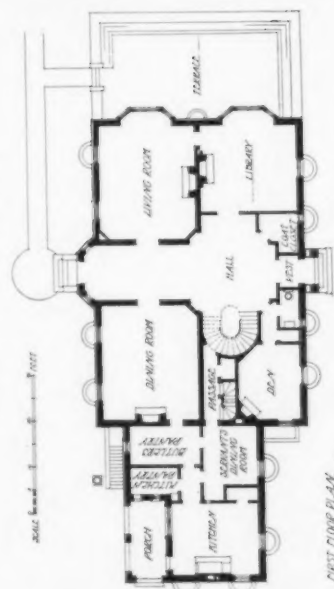


HOUSE AT NEW HAVEN, CONN.  
DELANO & ALDRICH, ARCHITECTS.





PLANS, ENTRANCE AND INTERIOR VIEWS.  
HOUSE AT NEW HAVEN, CONN.  
DELANO & ALDRICH, ARCHITECTS.

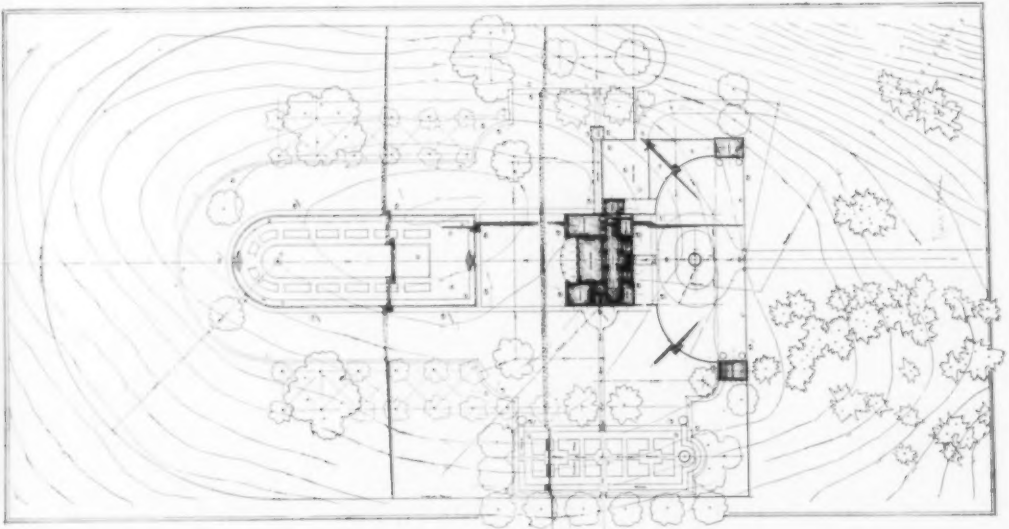
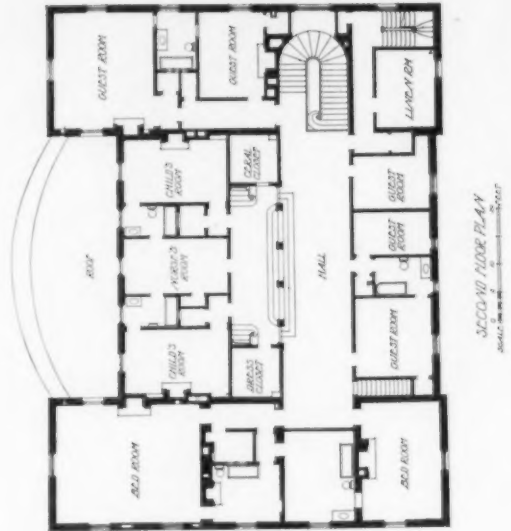




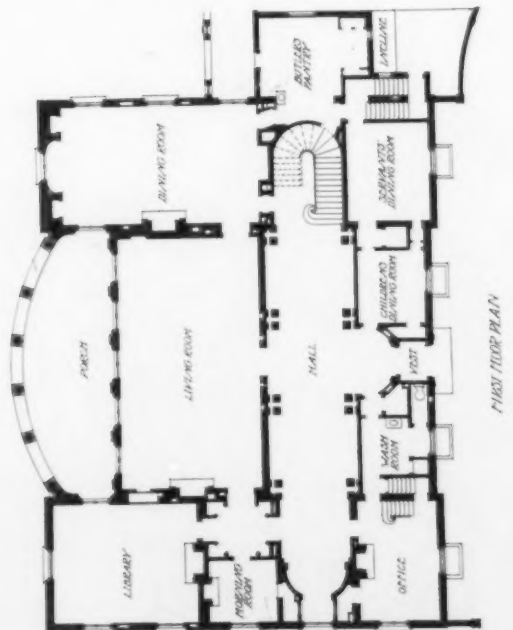




EXTERIOR VIEWS AND PLANS,  
HOUSE AT LENOX, MASS.

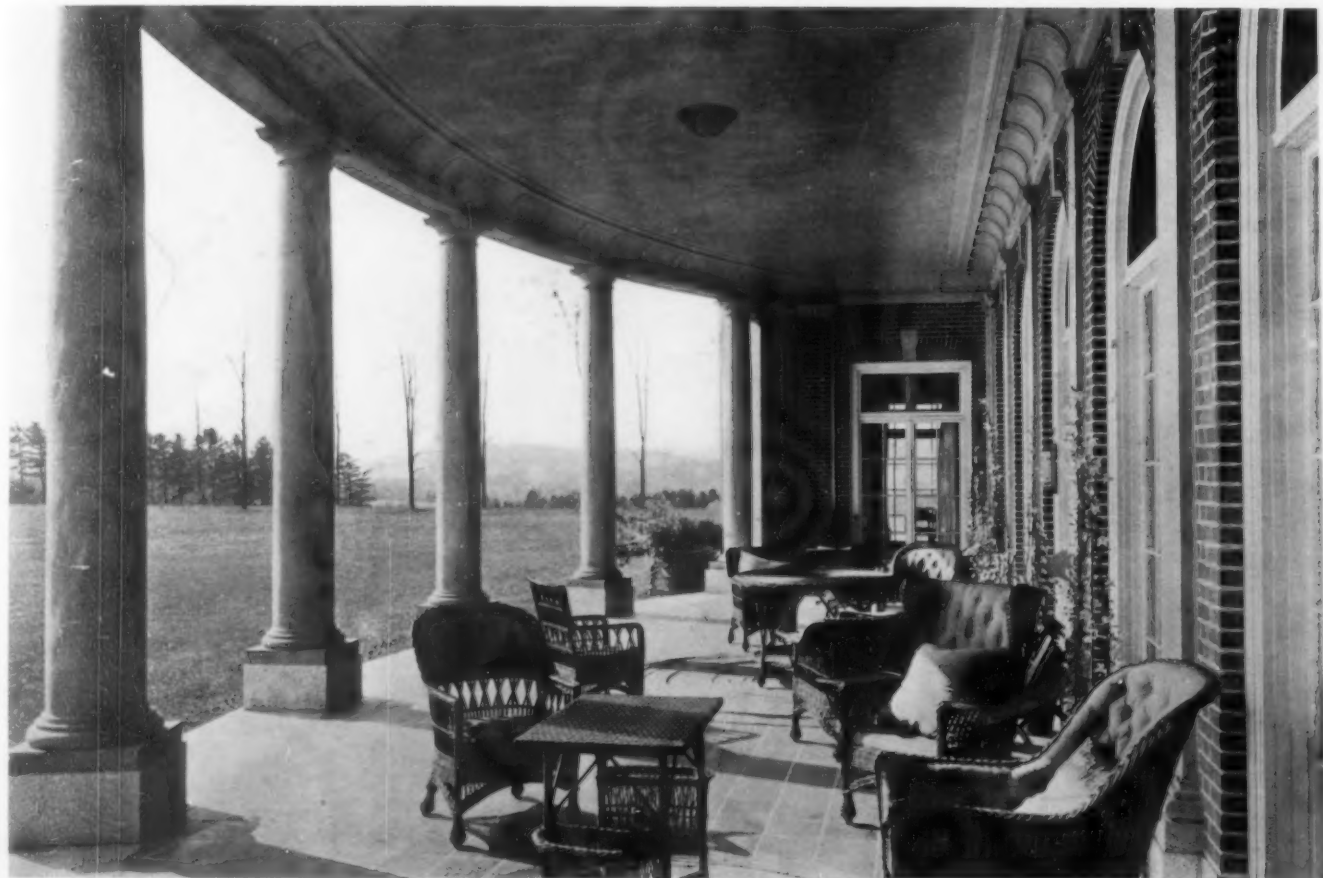


DELANO & ALDRICH,  
ARCHITECTS.









TEA HOUSE AND PORCH, HOUSE AT LENOX, MASS.  
DELANO & ALDRICH, ARCHITECTS.



HOUSE AT LENOX, MASS.  
DELANO & ALDRICH, ARCHITECTS.

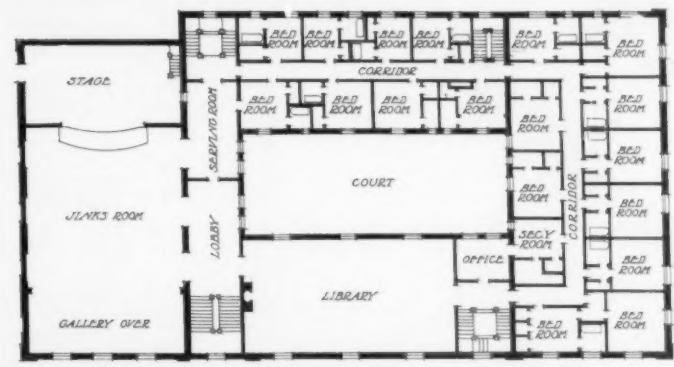




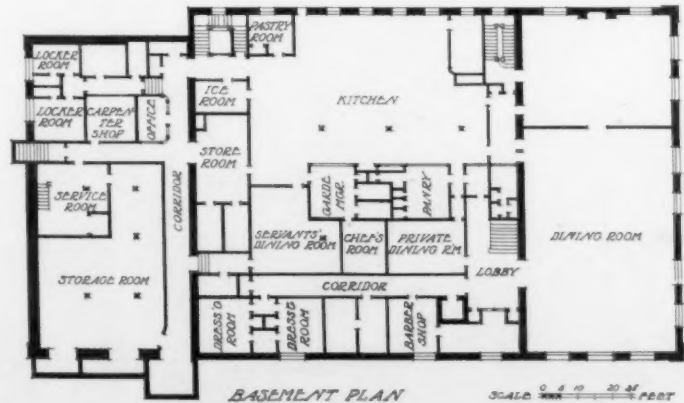


LORING P. RIXFORD  
AND  
GEORGE W. KELHAM,  
ASSOCIATED ARCHITECTS.

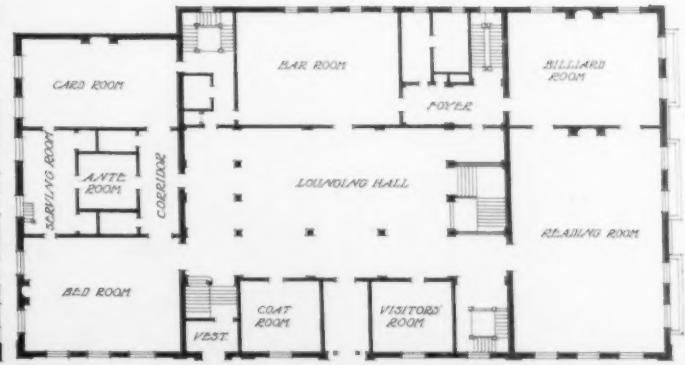
THE  
BOHEMIAN CLUB,  
SAN FRANCISCO,  
CAL.



SECOND FLOOR PLAN



BASEMENT PLAN



FIRST FLOOR PLAN

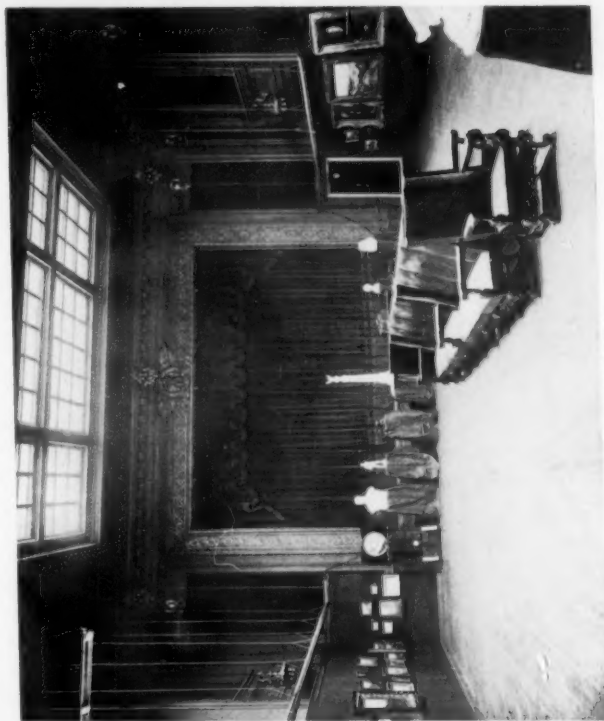
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LOUNGING HALL.

THE BOHEMIAN CLUB, SAN FRANCISCO, CALIFORNIA.  
LORING P. RIXFORD AND GEORGE W. KELHAM,  
ASSOCIATED, ARCHITECTS.



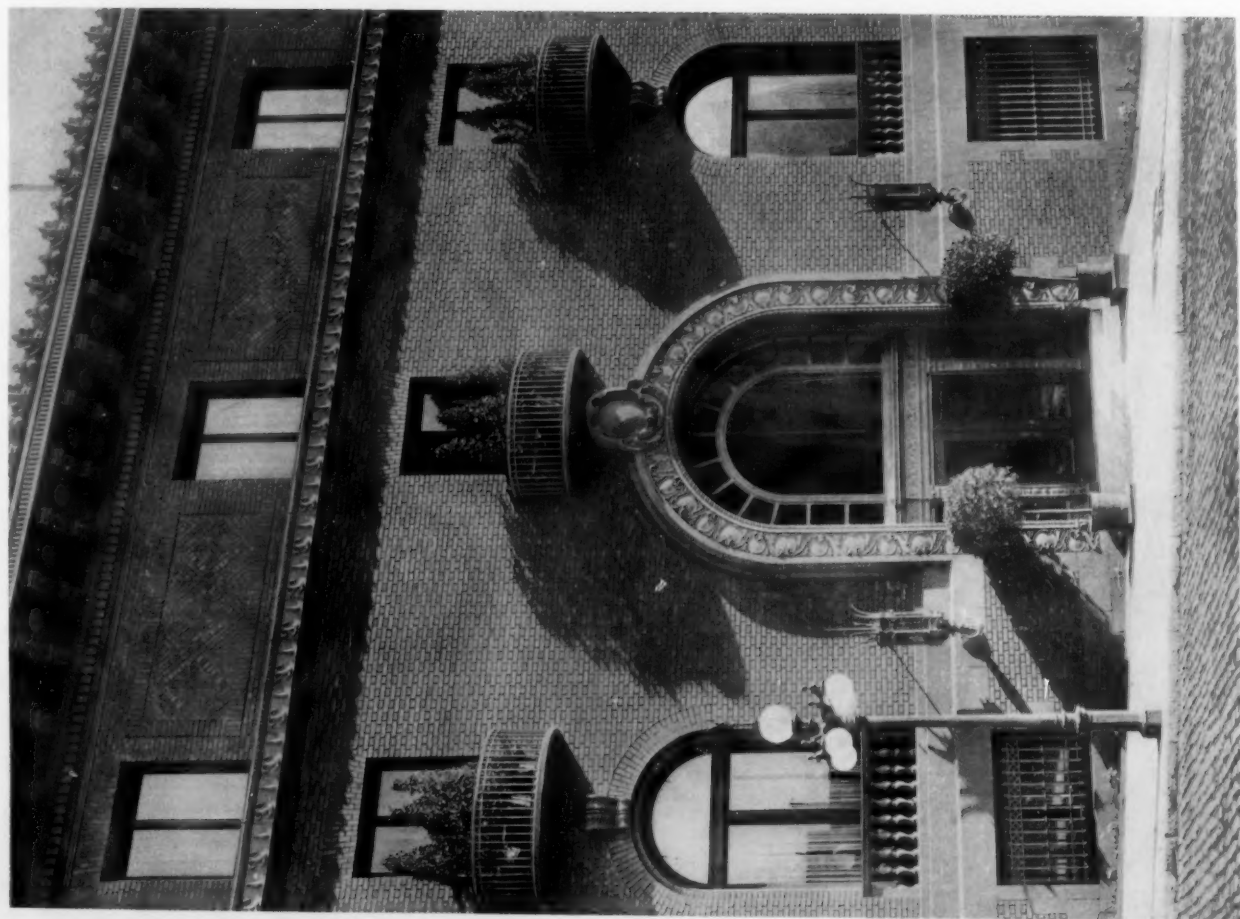
JINKS ROOM.



LIBRARY ROOM.



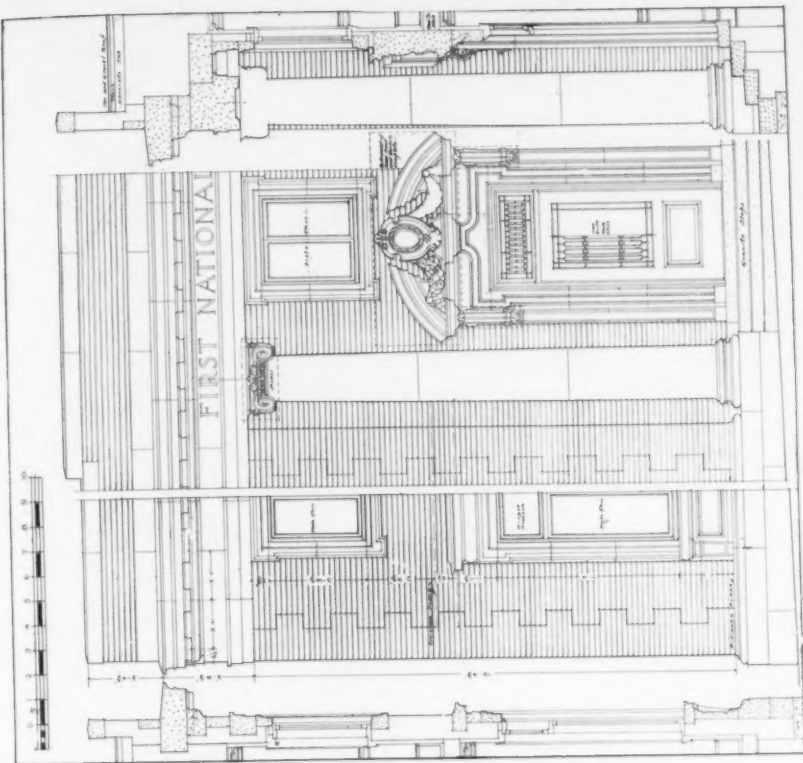
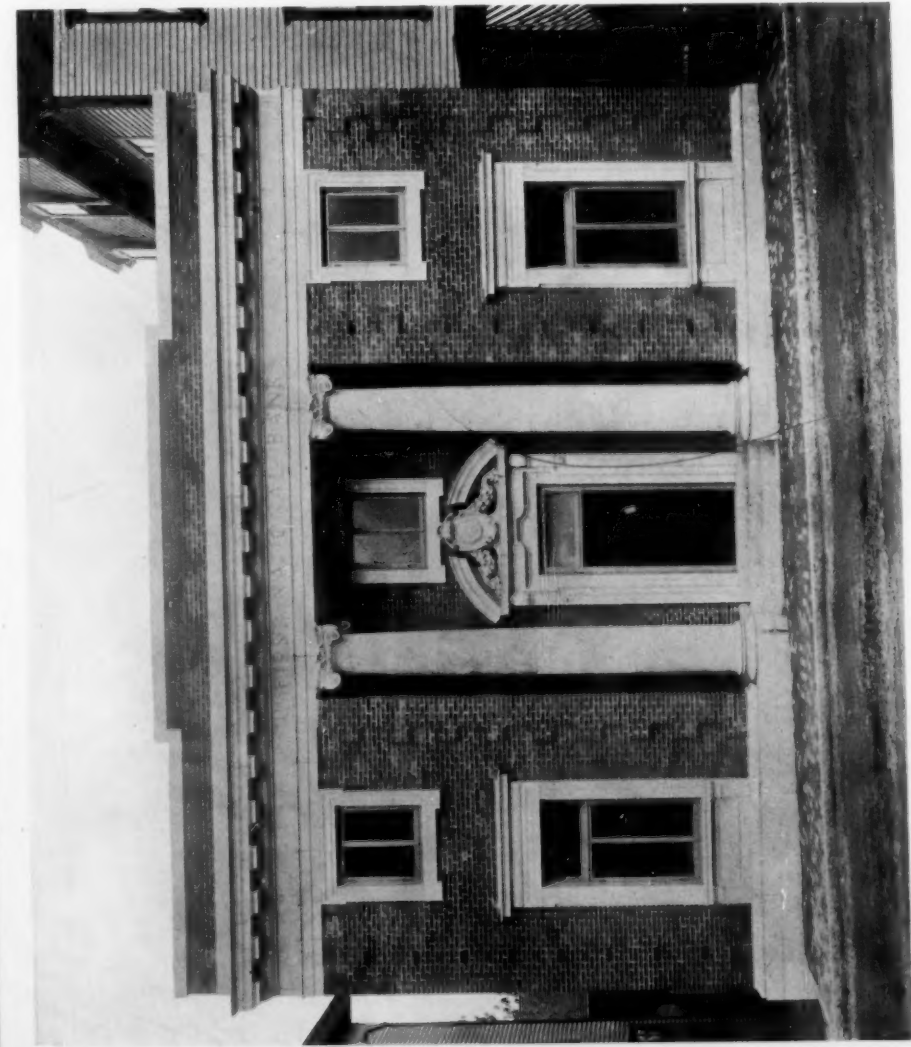




TWO ENTRANCES.  
THE BOHEMIAN CLUB, SAN FRANCISCO, CALIFORNIA.  
LORING P. RIXFORD AND GEORGE W. KELHAM, ASSOCIATED, ARCHITECTS.

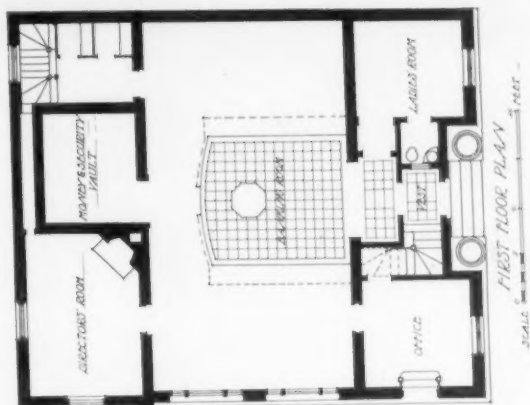




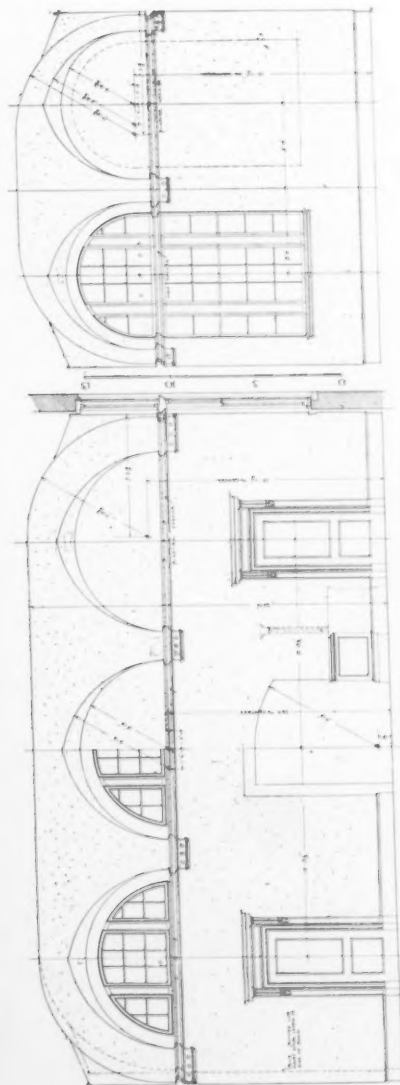


EXTERIOR DETAIL.

FIRST  
NATIONAL BANK,  
BAR HARBOR, ME.  
ANDREWS  
& RANTOUL,  
ARCHITECTS.

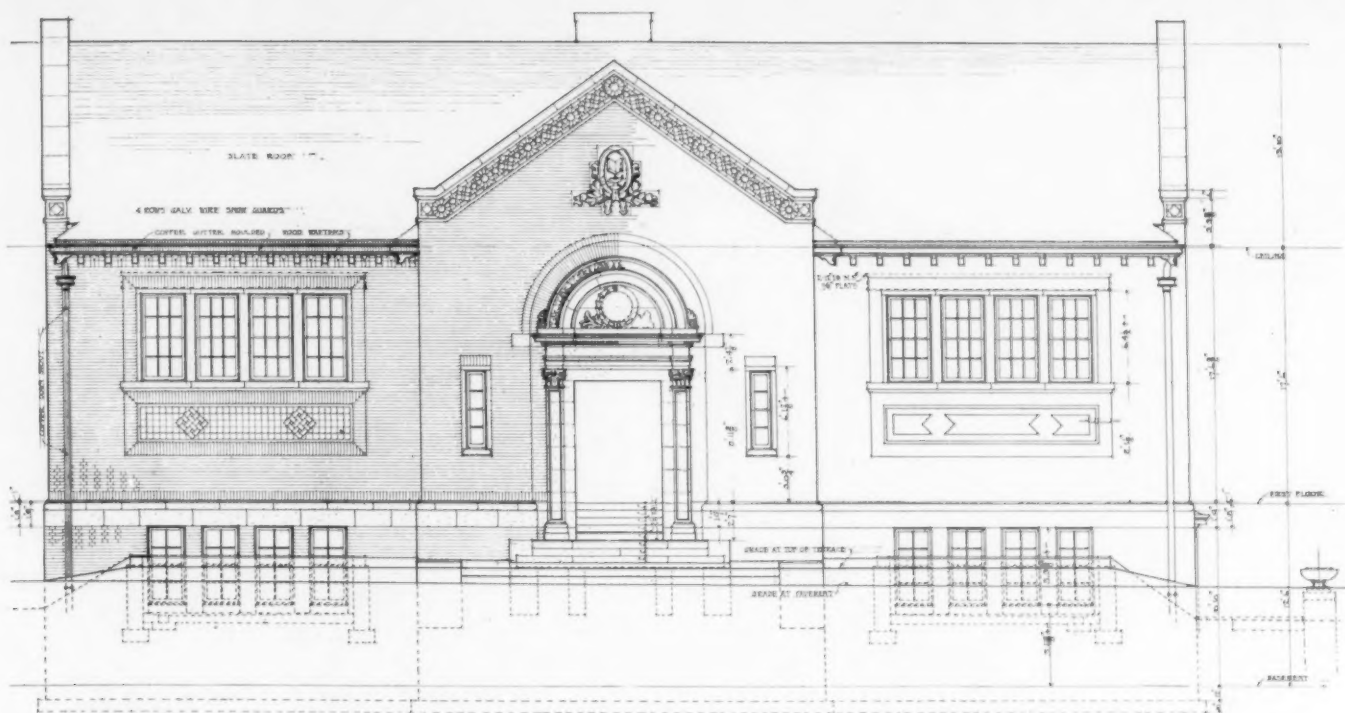


FIRST FLOOR PLAN  
SCALE 1/8" = 1'-0"

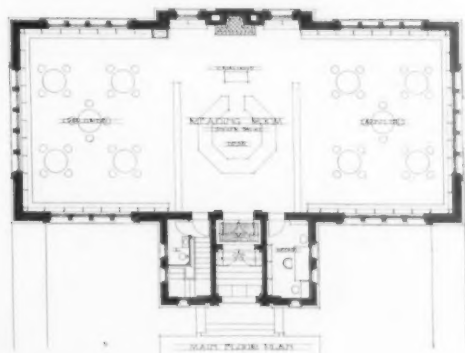


SECTIONS THROUGH BANKING ROOM.

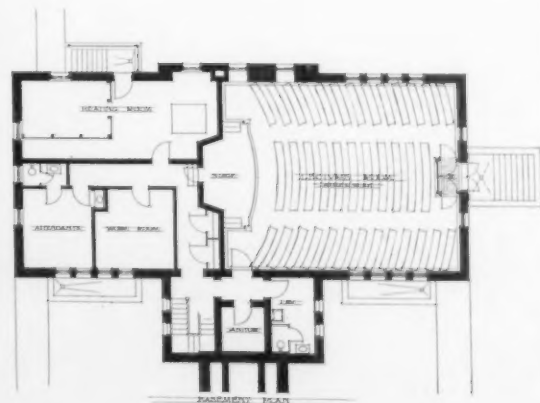




GARRISON AVE. (FRONT) ELEVATION.

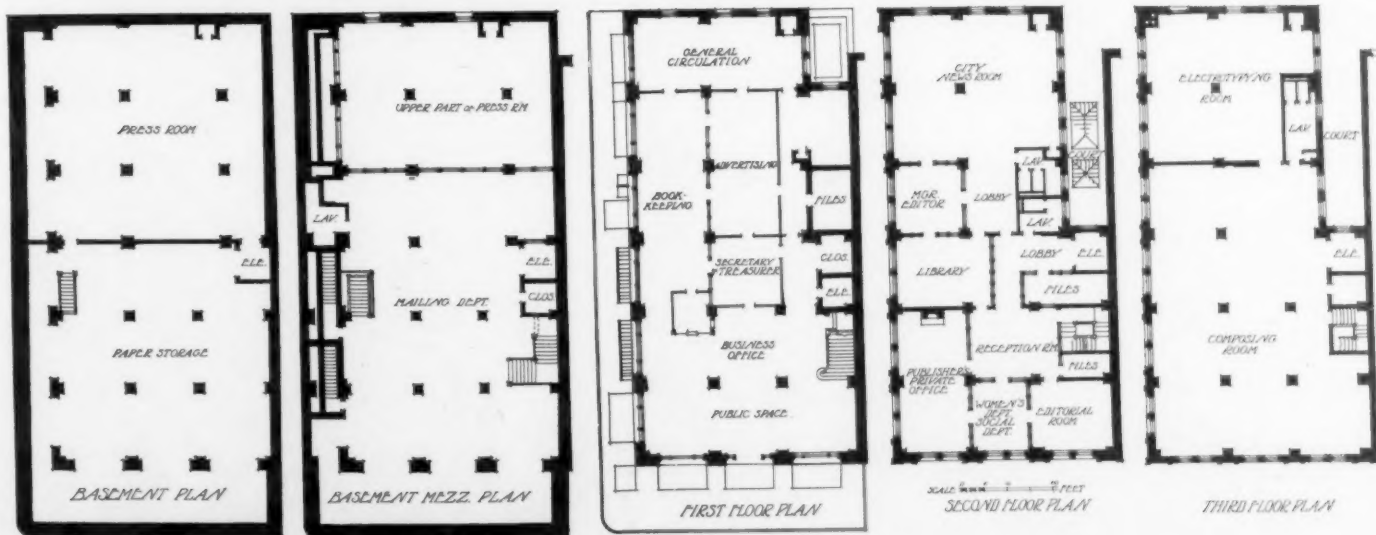


ENOCH PRATT FREE LIBRARY,  
FOREST PARK, BALTIMORE, MD.  
ELLICOTT & EMMART, ARCHITECTS.









BIRMINGHAM LEDGER BUILDING, BIRMINGHAM, ALA.  
WILLIAM LESLIE WELTON, ARCHITECT.





tile. (I) Bead and real moulding, cream color. (K) Dark blue tile. (L) Panel ornament forming a soffit of the main arch in which the ornament is white on a blue ground. (M) Blue tiles. (N) Cap, abacus, necking, rosettes, and other ornament of white upon a blue ground. (O) Ornament white on blue ground. (P) Blue tiles. It is a little difficult to explain the effect of the composition or the influence of one tone upon another. A thoughtful study, however,

of many stories rests. Of course, as every one knows, it is no easy matter to handle dark blue and buff and make of it a picture which is bright, stimulating, and that is certainly the kind of tone with which a public dining-room should be filled. Consciously or unconsciously, the architects have once again shown what can be done with a full-toned blue. It was tried in Persia ages ago before the Northern or Central portion of Europe was heard of, and



VIEW SHOWING ENTIRE LENGTH OF ROOM WITH BALCONY AND DETAIL OF RAILING.

discloses the subtle manner in which this rich composition has been made to be light, cheerful, and at all times agreeable. Perhaps the position of the groined vaulting and the manner in which the daylight comes in from the upper part of the windows has something to do with this. There is about the whole room an atmosphere of cheerfulness, — with all its serious construction, its academic and well-studied poise, that cannot be denied, and one would scarcely think that upon this beautiful vaulting a structure

when this favored land was fast asleep. And it is no little pleasure, nor is it a light tribute to the material nor to the metallic oxides and glazes which make it so presentable, that once again this rich mysterious blue should be the key-note and the note in a new order of things, a new civilization, a new world. There is just a flavor of the tone in the outside of the building and in a way it appears again and again wherever we look. It is the accent of the electric-lighting fixtures of the main floor; it appears in the livery of the

servants; its echo is to be heard through the various passages and subsidiary parts in the café, butler's pantry, passages and what not. And yet it is never dull, never dark, never depressing. Scientists and colorists always say of blue that it blackens at night, but this particular tone seems to escape. It adds in depth and mystery, as it does in richness, as if the plume of a thousand vines were distilled into it. And again, the yellow, red — and the

matter. The ground is cream, somewhat like the tone of the vaulting. And upon this canvas in a most frolicsome way appear peacocks, pheasants, parrots, farmyard fowl, as well as small insects and occasionally foxes or monkeys. All this in spite of its freedom and abandon has been carefully thought out as to balance and accent. Throughout the superb plumage of the birds is ever present the shade of blue. It appears everywhere. The panels

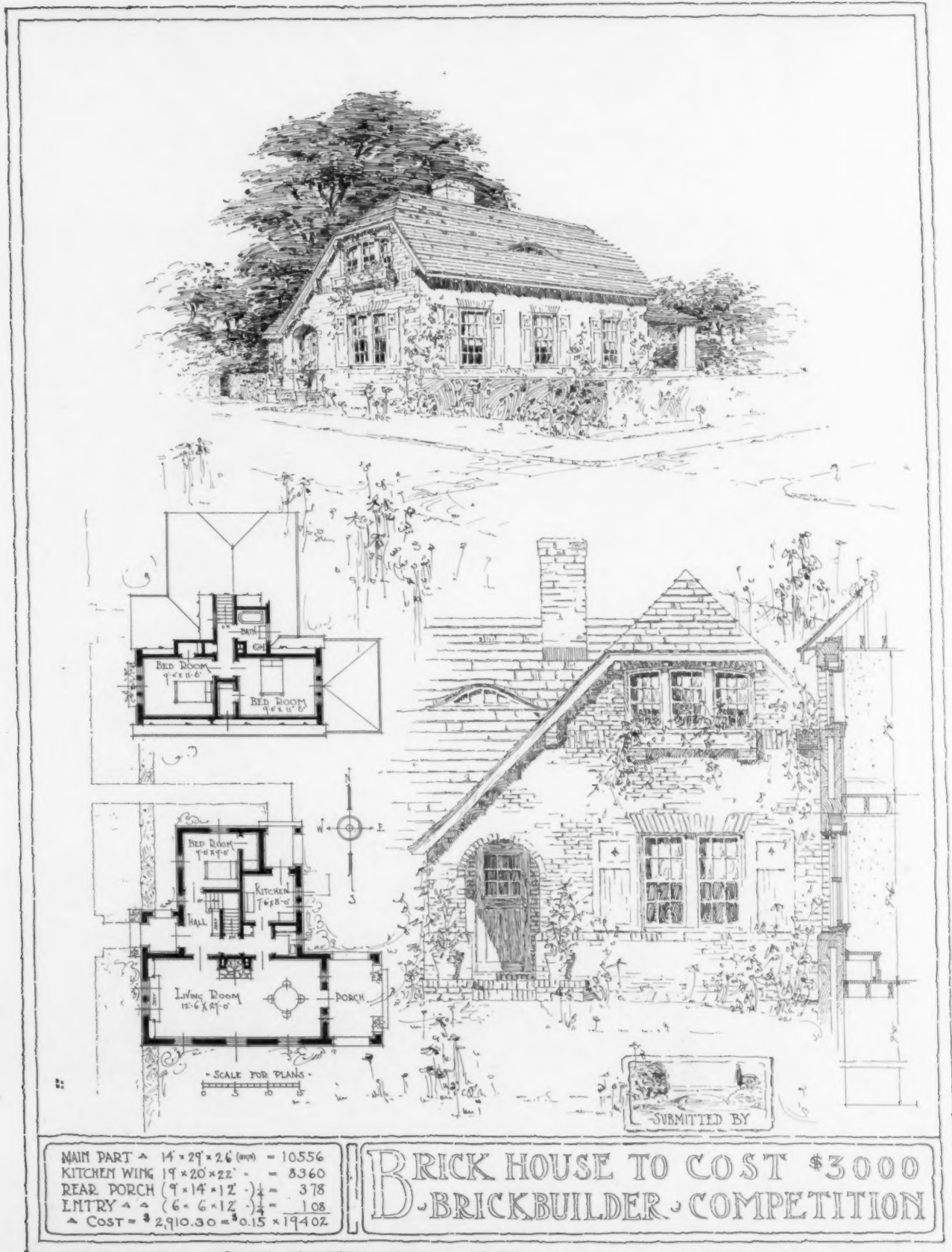


VIEW SHOWING THE CENTRAL PIERS FROM WHICH SPRINGS THE VAULTING, A PORTION OF THE WALL DECORATION AND THE DETAIL OF THE ELECTRIC LIGHTING.

projecting ornament and cross-lights with their reflections enter into and humanize the whole.

Again, the white marble floors and the peculiar dull white surface of the fascia to the balconies, the chamfered corners of the pilasters with their caps and bases, all help to soften the blue. The wall panels are particularly clever in that the problem of designing the painting was no easy

are carefully painted, not in the too-frequent thin naturalistic way, but sufficiently conventional to make them acceptable here. Round the balcony at certain set intervals cast-iron standards are placed and between them rope taking a graceful outline, thus getting rid of the customary hard line so serious and set. Of the electric lighting it is scarcely necessary to write. The views show the detail.

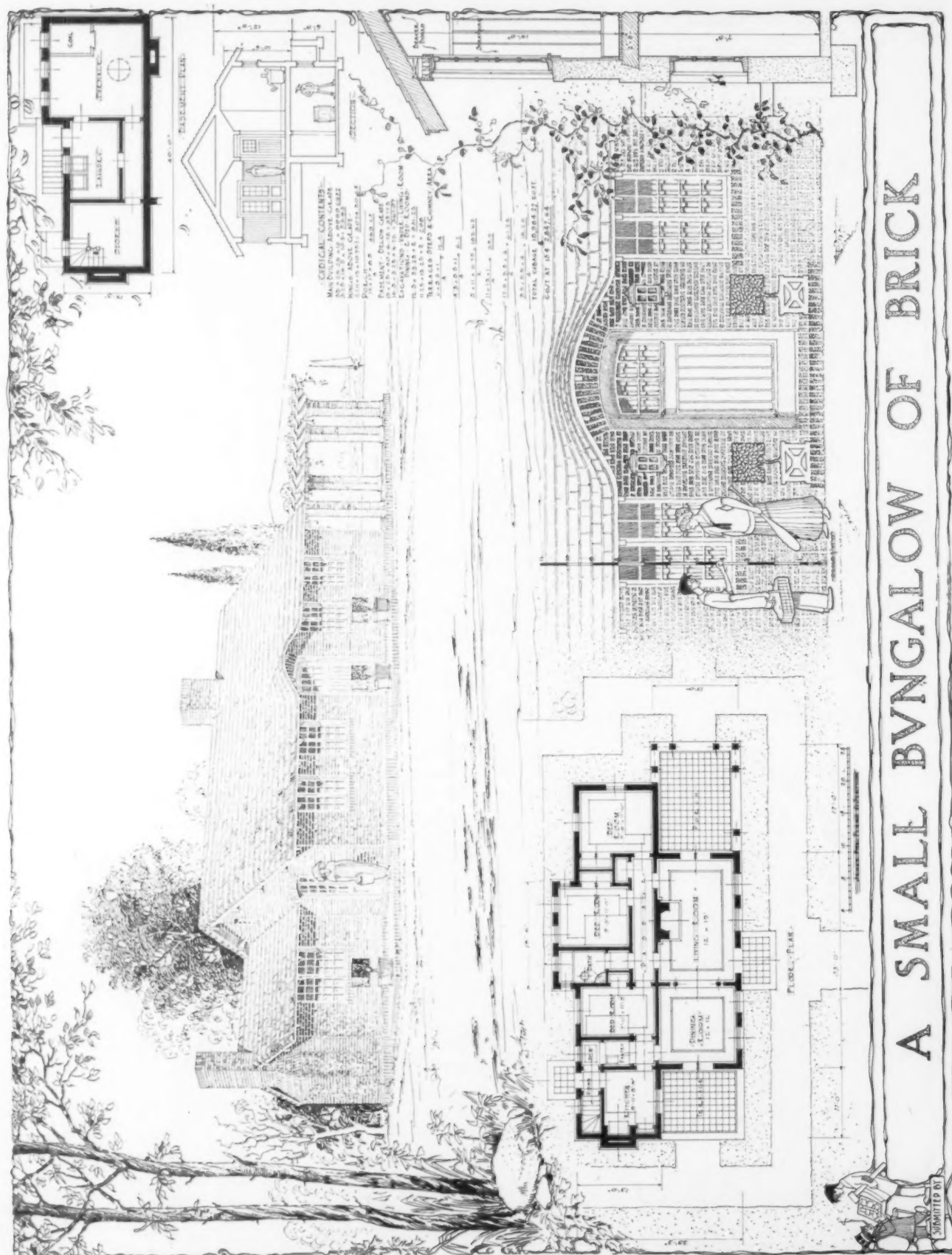


FIRST PRIZE DESIGN.

Submitted by Ralph J. Batchelder, Boston, Mass.

COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.





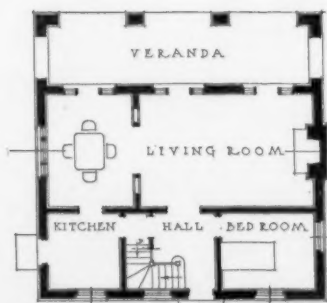
SECOND PRIZE DESIGN.

Submitted by Jack Lehti, Washington, D. C.  
COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.

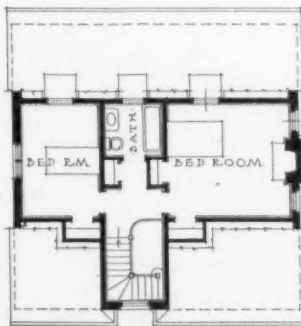


SCALE OF PLANS.

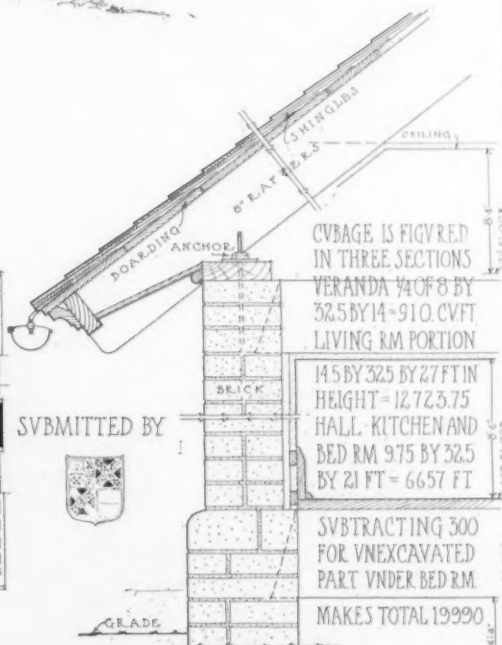
0 10 20 30



FIRST FLOOR PLAN



SECOND FLOOR PLAN



CUBAGE IS FIGURED  
IN THREE SECTIONS  
VERANDA 74 OF 8 BY  
32.5 BY 14 = 910. CVFT  
LIVING RM PORTION

14.5 BY 32.5 BY 27 FT IN  
HEIGHT = 12 723.75  
HALL, KITCHEN AND  
BED RM 9.75 BY 32.5  
BY 21 FT = 6657 FT

SUBTRACTING 300  
FOR UNEXCAVATED  
PART UNDER BED RM.  
MAKES TOTAL 19990

SUBMITTED BY

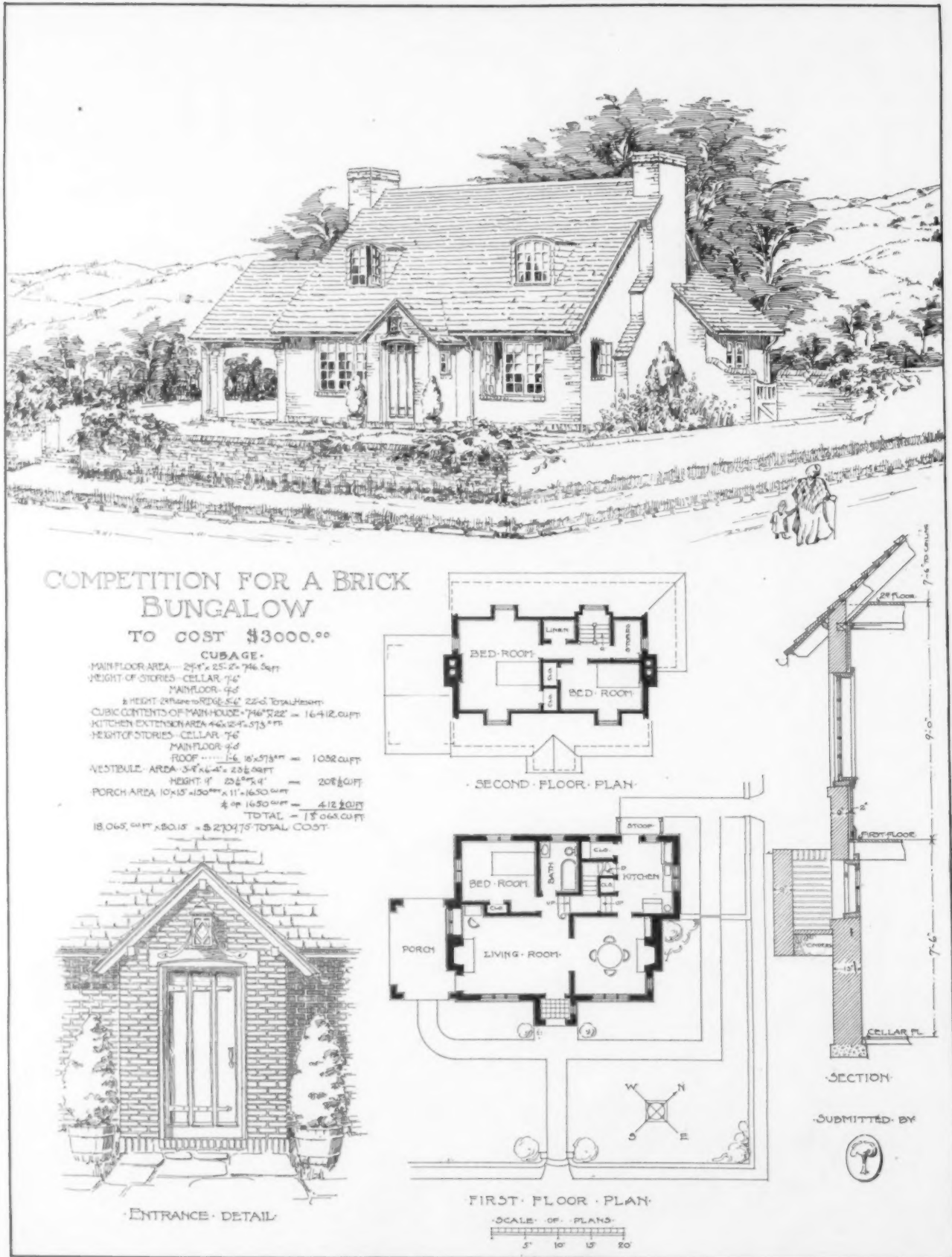


## COMPETITION FOR A SMALL HOUSE OF THE BUNGALOW TYPE

THIRD PRIZE DESIGN.

Submitted by William Boyd, Jr., Pittsburgh, Pa.

COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.



FOURTH PRIZE DESIGN.

Submitted by Charles Willing, Philadelphia, Pa.

COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.



## The Equitable Building Fire, January 9, 1912.

REPORT BY P. H. BEVIER, C.E.

THE Equitable Building is a heavy granite structure located at Broadway, Cedar, Nassau and Pine streets, New York City, occupying the entire block, with the exception of a brick building at the northeast corner occupied by Messrs. Belmont & Co., and a granite building at the southeast corner known as the Western National Bank Building.

The main portion of the Equitable Building runs through to Nassau street between these two buildings. There is an interior court extending upward from the top of the rotunda over the first floor arcade. The northwest corner of the building was the earliest portion constructed and consists of granite walls backed up with heavy brickwork, cast-iron columns unprotected by fireproofing, and iron I beams with brick arches. The larger part of this portion of the building entirely collapsed from the roof to the first floor. The remainder of the building consists of granite walls backed up with heavy brickwork, unprotected cast-iron columns, flat hollow tile arches 8 inches deep without protecting skewbacks. The soffits of all beams and girders were unprotected by fireproofing. This portion is standing and not greatly damaged except in certain parts where the cast-iron columns have failed and the entire section collapsed from roof to first floor. Where the columns did not collapse the arches and structure appear to be in fairly good condition.

The fire originated in the basement of a restaurant in the southwest corner and spread rapidly up the elevator shaft, mushrooming over the entire top of the building. On account of a very high wind and extreme cold, which hampered the fire department, the fire spread over the entire building, consuming everything above the first floor which was burnable.

The building was wall-bearing, so that when the columns collapsed the ends of the beams resting in the walls on stone templates were pulled from the walls but left them standing. There is no question but that had the elevator shaft been protected the fire would have been confined

to the basement. Had the columns been protected the building would not have collapsed in any portion, and the damage would have been only that by fire and water. As it is, the portions which collapsed were totally destroyed. The other portions could be repaired but will be torn down to make room for a modern fireproof building. The company had contemplated the razing of the present building for some time to make way for a modern structure.

The Belmont Building is of comparatively modern construction, fireproofed with hollow tile throughout, and is uninjured except where some wooden partitions were burned out in the westerly end, and by water which flooded the entire building.

In the Nassau street (easterly) end of the main building, on the fifth floor, was located the Lawyers' Club, the main room being very large and lofty. All the woodwork was consumed from this room, but apparently the structure is not seriously damaged. The main

room connected through doorways into a room which occupied the entire top story of the Western National Bank Building. Over this was an angle iron and booktile dome. All the woodwork was also consumed from this room, but apparently the steel and fireproofing construction was not injured.

No damage was done to the lower stories whatever, which was of steel and hollow tile construction throughout, except by water.

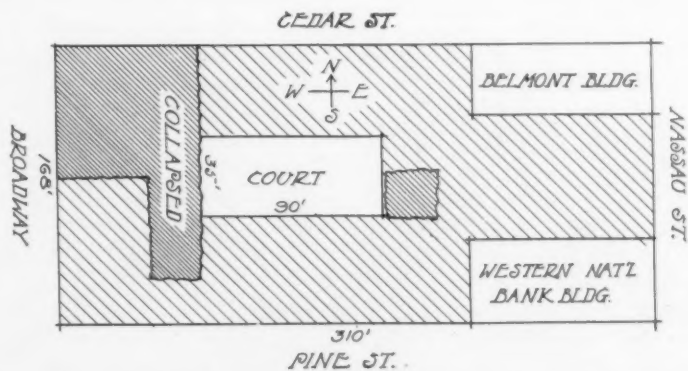
All the interior subdividing walls are of brick and the fire could have been confined to one portion of it had the openings communicating from one part to another been closed by fireproof doors.

The accompanying diagram will give an idea

of the size and shape of the Equitable Building. The earliest portion, on the northwest corner, was built in 1868, the main portion in 1885. It can be easily demonstrated that for a comparatively small amount this conflagration could have been prevented by enclosing vertical openings at elevator and other shafts with fireproofing material, fireproofing of the columns, and placing of fireproof doors in openings in walls which subdivided the building.



VIEW SHOWING PORTION OF BUILDING WHICH COLLAPSED.



PLAN OF BUILDING WITH PORTIONS WHICH COLLAPSED SHOWN IN FINE CROSS HATCHING.

## Legal Hints for Architects.—Part VIII.

WILLIAM L. BOWMAN, C.E., LL.B.

*Extra Work!* That hope of the contractor, despair of the owner, and nightmare of the architect! While architects and engineers have been continually crying "Out, damned spot! out, I say!" extra work is still ever present in construction work. In the uniform contract they have at least gotten rid of this term, expressing the clause which is generally supposed to pertain to such work as follows: "No alterations shall be made in the work except upon written order of the Architect." It would seem now that this phrase has not prevented the doing of or restricted the ordering of what is now strictly considered "extra work." Whether or not it was the intention of the parties framing the uniform contract to include in the word "alterations" the various kinds of work which have been expressed as changes, additions, deviations, alterations, extras, etc., is not known to the writer.

In Part V of this series I have defined technically the most important of these words, showing their differences. At least one state has come out clearly in its interpretation of this clause and in several decisions held that it does not apply to extra work. This means that no written order of architect or owner is required to make the owner responsible for extra work or work outside the contract. In one case there was a contract for all the plumbing work for a proposed hotel. The specifications stated that the architects were unable to locate and describe the drainage pipes of the building about to be constructed. When the old drainage system was discovered after much of the plumbing work had been completed by the contractor, the municipal inspector refused to permit its use and an entirely new one had to be constructed. The changed conditions also required other work and materials not included in the original contract and certain alterations of the completed work and also certain repair work. The inevitable question arose as to whether this work was within the contract or not, and it was contended that even if it was not, yet the owner was not liable because the work had not been ordered in writing as provided by the clause under discussion. The court held that none of this work mentioned could be considered as "alterations" within the provisions of the contract. In a very late case this matter is expressed thus: "Where the parties deviate from the original plan agreed upon, and the terms of the original contract do not appear to be applicable to the new work, it being beyond what was originally contemplated by the parties, it is undoubtedly to be regarded and treated as work wholly extra, out of the scope of the contract and may be recovered for as such." Then speaking of this particular clause the opinion states: "The materials and labor here sought to be recovered for were never contemplated in the original plans and specifications and were not alterations within the provisions of the contract."

In another decision this requirement was held inapplicable to work which was not within the plans and specifications and which was merely an addition in no wise affecting or relating to anything contained in the contract between the owner and contractor.

These decisions bring us squarely to the question which

is often difficult to determine, what is an "alteration" within this provision? An alteration has been legally defined as being "generally understood as meaning a change or changes within the superficial limits of an existing structure, or a change of form or state which does not affect the identity of the subject." The first part of that definition probably was given on account of a special definition which this word has under most city building codes and as used in a certain mechanics lien law. The distinction there being between *alteration* as an addition in height, depth or extent of interior accommodations; and *addition* as a lateral addition or occupying more ground area. It would seem that this word is best construed in the same sense as the three words "changes, additions and alterations" have been construed, namely, such changes as are incidental to the complete execution of the work as described in the plans and specifications and therefore of only minor or trifling importance. Any material departure from the plans and specifications with reference to which the contract was made, which resulted in a new and substantially different undertaking, cannot be regarded as within the meaning of this word. Where changes in substituting mountain surface stones for mountain quarried stone and lap binders for headers in foundation walls were made, they were held to be "alterations" within this clause. On the other hand, work caused as damages from water freezing and causing the foundation walls to crack and split was not "alterations."

While the expression "alterations, deviations or additions," has been held to include extras, yet there seems to be as yet no decision directly holding that the clause under discussion includes extras. The architect should therefore beware how he orders extra work believing it to be part of the contract and then after finding out he is wrong how he protects the owner by claiming that the owner is not liable because the contract provision for a written order has not been complied with. Whether certain work is extra or alteration is a question of fact which may be somewhat difficult to determine, but at all events, no matter which it is, the architect who always issues a written order for any such work will always be safe from honest criticism.

It is almost the universal rule to-day that the architect has no authority or power to waive this requirement of a written order for "alterations," and since it is often considered a condition precedent for the recovery by the contractor of his compensation, no architect should ever knowingly order such work without then and there issuing the necessary written order. It should be further noted that this prohibition extends only to the architect, so that where a contract in addition provides that an owner may order alterations without voiding the contract, the owner clearly has the power to order such alterations orally. How about the owner ordering alterations orally where this clause under discussion is the only one mentioning that subject? It is elementary that a party to a contract can waive any of its provisions for his protection so that such oral order would undoubtedly bind the owner. It has been held that where the architect ordered orally with the owner



present and consenting thereto, that it was a waiver of this requirement. Also where such work ordered orally even by the architect has been paid for by the owner upon a partial payment, such payment would ordinarily be considered a ratification of the architect's order. In this connection however, it, has been held in just such a case that the architect's certificates for partial payments which contain an estimate for work orally ordered have been held not to be written orders within the requirement.

Since the various decisions as to owner's waiver or ratification have been determined upon so many diversified facts, and since there is much difference of opinion among the courts, it seems best to dismiss this subject with the comment that most courts seem to find any excuse legally valid to protect a contractor from loss where the owner has received the benefit of work and materials and where it would otherwise create a case of unjust enrichment. This rule does not hold good where governing bodies are concerned, as counties, municipal corporations, etc., and hence where architects are acting for such bodies they should be especially careful to comply with the contract requirements for any class or character of work outside the plans and specifications. In this way they will escape being the innocent means of enriching such bodies at the expense of an innocent contractor.

This requirement for written orders of the architect is often used in contracts in connection with the use of the word "extras" instead of "alterations." The rules of law governing such a clause are identical with those which we have just discussed. In such cases some courts have created a still further distinction between the "extra work," which under the contract requires a written order, and work which is clearly beyond or outside the contract. For example, where there was a contract to do exterior work, and the architect orally ordered interior work, the latter work was held not to be extra work within the requirement of a written order and hence that the contractor could recover as upon an entirely separate contract. The theory here, however, is the same as we have heretofore discussed, that where it can be seen that the new work ordered has no connection with the original contract it is considered a new contract or agreement between the parties; and if no price is mentioned, then the owner is liable for the reasonable value of the work so ordered. It is to be regretted that there is such a conflict of terminology, but since it does exist it is a matter for the architects to try and correct and make it uniform, but at the present time it requires their careful attention when they are called upon to decide judicially questions involving such terms.

Although I have stated that courts are rather inclined to be lenient and still technical in finding some satisfaction of this requirement of a written order, yet the following instances will show that they refuse to go to extremes. It was held that this requirement was not satisfied either by mere unsigned sketches of the manner of doing the alteration or extra work, nor by the fact that excavation stakes were marked so as to take the excavation lower than the plans showed. It has been held, however, that a detailed plan satisfied the contract in this regard.

On numerous occasions I have pointed out that this particular trouble as a practical matter ought to be easily remedied by the issuance of written orders complying with the contract provision in every detail, not only for that

work which the architect may consider outside the contract requirements, without reference to what he may term such work, but also in the cases where the architect honestly believes that such work is within the contract, which belief, however, is not shared by the contractor. It would seem best in such a case to issue a proper contract order, conditional, however, upon a decision or determination by the owner, the proper contract arbitrator or arbitrators, or a court, upon the difference of opinion. This is at least an easy way in which the architect could prevent the contractor suffering any loss unjustly, and also relieve and break down that feeling now prevalent among some contractors that the architect is working for the interest of his employer, the owner, and that as a zealous employee the more he can enrich the owner even at the expense of the contractor the greater will be his ultimate reward.

In our considerations of this clause we have so far dodged the most interesting and also somewhat difficult question for the architect as to what is his authority or power under such a clause. We have seen that as the owner's agent the architect should be governed by the strict interpretation of his powers, and this considered with our definitions of "alterations" would seem to bring us to the conclusion that the architect has no power to order extra work or to create any new obligation on the part of the owner to pay for work and materials clearly outside the contract.

In the ordinary case the contractor would probably not be permitted to suffer from this unauthorized assumption of authority on the part of the architect, upon the principle of implied powers of the architect or upon some basis of quasi-contracts upon the theory of the owner seeing the work being done and accepting the benefits thereof, hence he should pay the reasonable value for same. Such is not the case when we consider municipal corporations and like bodies. This can be shown very plainly by a situation which exists to-day in one of our great municipalities. In one form of contract it provides for the method in which "extra work" can be ordered so as to make the municipality liable for such work. In another form the words "extra work" were changed to "additional work" with the same requirements. About the same time this change was made the courts began to make the distinction between the two classes of work as I have defined them previously, with the result that the architects and engineers in many cases failed to notice under which form of contract they were superintending. Extra work would be ordered in the manner called for by the additional work contract, and vice versa, and when the contractor tried to collect, the city authorities would blandly tell him that he should have had a different kind of order for that work and that they could not pay him. Legally and technically such refusal was correct and there was and is no way in which such a contractor can recover for such work which he did under the directions of the city architect or engineer in charge, and as he and said superintendent imagined, in strict compliance with the contract requirement.

While it must be admitted that the contractor should take care of himself and should not depend upon the architect or engineer, yet at the same time an architect or engineer should not be so ignorant of his powers and thus primarily be the cause of the contractor's inevitable loss. Equitably and morally, therefore, it is, and should be, the



pride of every architect to know that when he orders any work he is assured that the contractor shall not suffer therefrom, and to do this requires so little in the way of study or merely asking a few questions of one who knows, that there seems no reason why such losses should occur, and put the architect or engineer in the false light. Beware, therefore, of contracts of sovereign bodies such as states, counties, cities, towns, villages, etc., in this regard.

It has been said that there is no settled rule of legal construction which can be applied to determine whether certain work or materials were included in or were foreign to a written contract. However, when we remember that the intent of the parties is to be effectuated, if possible, and in the ascertainment of that the writing should be read in the light of the circumstances attending its execution and the subsequent attitude and conduct of the parties in relation to the subject matter of the controversy; and when we consider the discussion herein, it would seem that as a practical matter but few cases should trouble the architect reader when this question is presented to him.

There is still another point in this regard which the architect must take into serious consideration, and that is, if he orders the contractor to do work under this clause and the work ordered is not alteration work and the order is persisted in by the architect or owner, the contractor can cease work on his entire contract, declare a breach of the same, and collect at law the damages therefor. In order that this may be clearly understood I shall give two examples of this, the first involving ordinary parties and the second where a state was one of the contracting parties; in neither of these instances was the clause the one under discussion, but that does not affect the principle.

In the first case the contract contained probably the broadest phraseology that could be used in this regard and permitted the owner "to make alterations in the line, grade, plans, form, position, dimensions, or materials of the work to be performed." The original contract called for a wholly masonry dam, but after investigations made when the work was started, it was finally decided to change to an earth dam with a masonry core. The engineer then made new plans and details therefor and gave them to the contractor and ordered him to proceed with the work. The contractor refused to proceed upon the changed plan and claimed a breach of the contract upon the owner's backing the engineer up in his demand. After litigation covering several years, the highest court of the state held, that although this clause above quoted gave the owner great power to modify and alter the plans, yet it did not authorize him to alter or destroy the essential identity of the thing contracted for. That the proposed change constituted a breach of contract which justified the contractor in refusing to comply and for which breach the contractor was accordingly entitled to his legal damages.

In the other case the state reserved "the right to make any change they shall deem proper in the plans and specifications," etc., there having been bids advertised for and the contract awarded as required by said bidding proposal. The contract and specifications called for several buildings, all of which were to have exterior facings of sandstone. After some of the buildings were completed and practically all of the stone cut and on the ground to complete all the work under the contract, the state through its

agents changed the stone facings on the remaining buildings, which they then decided to complete to brick with stone trimmings. Other buildings they at the same time decided not to build. Here the contractor continued the work as ordered but claimed the breach of contract and later sued for his damages. The court sustained the contractor's position and the opinion comments upon the situation as follows: "These (buildings) were all to be built. The size and height of them were fixed and the material to be put in the walls determined. The general character of the buildings could not be changed so that the buildings would not be the same contracted for; if it could be, then a public letting in such a case would not be useful and might be an idle ceremony. Under such a reservation could a building planned for five stories be reduced to two? Could a stone building let to a stone mason be changed to wood or brick? Could the five connecting wards be reduced to two, three or four? We are clear that authority for such extensive changes could not be found in such language. If the state could change to brick walls with sandstone trimmings, then it could change to walls made wholly of brick, and thus there would have been no stone to cut and the cutting contract would be entirely nullified. It is difficult to draw in advance a precise line between what is authorized by such a reservation and what is not. It authorizes such changes as frequently occur in the process of constructing buildings, in matters of taste, arrangement, and details; but it does not authorize a change in the general character of the buildings."

These examples show that when an architect finds himself confronted with a refusal on the part of the contractor to comply with his orders given pursuant to the clause under discussion or some other clause of similar import, he should not take matters into his own hands without consulting the owner or good legal advice on account of the very serious liability which his course of action may impose upon the owner, and the personal loss of some of his architectural prestige and business integrity.

Our original clause under discussion is to-day often varied by an additional requirement of the owner's signature as well as the architect's to the written order. Some requirement of this kind is always to be found in municipal contracts, etc., and is considered a condition precedent to the recovery of the contractor of any pay for such work done. Minor changes in building work often come up just when the work is being done and when time is valuable, and the architect to save delay often tells the contractor to go ahead and do it, and that he will see that he gets the proper order, and then either forgets the promise or finding that he cannot get the owner or proper board to sign such order makes the best excuses he can. Again there are often cases where the contractor would rather make some minor change which both he and the architect know is needed, rather than hold up his work a day or so for the necessary written order at a greater cost to him than the change would pay. Of course in such case the contractor should be warned that he is liable not to be paid for the work so done, but the architect should see that the extra order is obtained if possible. The rule for the architect should be that no directions or orders at all in variance with the plans and specifications should be given by him or his superintendent or inspector except upon the strict compliance of the contract provisions in that regard.

## Editorial Comment and Miscellany.

## THE BUNGALOW COMPETITION.

THE Jury for the Bungalow Competition awarded First Prize (\$500) to Ralph J. Batchelder, Boston; Second Prize (\$250) to Jack Lehti, Washington, D. C.; Third Prize (\$150) to William Boyd, Jr., Pittsburgh, Pa.; Fourth Prize (\$100) to Charles Willing, Philadelphia.

Mentions were awarded to Harris Allen, Berkeley, Cal.; Henry Jay Briggs, Washington, D. C.; J. Martin Brown, New York City; F. D. Bulman, Boston; Alfred Coakman Cass, New York City; Clinton Hall, Plainfield, N. J.; Addison B. LeBoutillier, Boston; Edward F. Maher, Boston.

The competition was judged by Messrs. Gordon Allen, Robert P. Bellows, Allen H. Cox, James C. Hopkins, Charles D. Maginnis.

The competition proved to be very popular, 666 designs having been submitted. In giving this competition it was hoped—and we may say that the hope has been realized—that a series of designs would be obtained which would help to point the way and encourage a better class of construction in inexpensive houses. It is not felt that a work of this sort trespasses into the field of architectural practice or in any way interferes with the rights of the architect. The four premiated designs are published in this number, later a selection of the designs submitted will be published in book form and sent broadcast to prospective homebuilders. And we feel that this work will be the means of arousing a deeper interest in a better style of design, and incidentally increase the use of brick rather than the cheap and flimsy materials which have been so extensively used in the past. If this work succeeds in a reasonable degree in creating a more widespread interest in houses of wholesome design and substantial construction, it will have served its whole purpose, which was to create a better appreciation for the work of the architect and give to the country a better class of small houses.

It is remarkable how the quality of draftsmanship has improved from one competition to another and how closely the majority of contestants have followed the conditions laid down in the programs.

The benefits derived by those who enter these contests even though they do not win prizes are manifold, in that they furnish a practical training and afford a chance to measure one's ability with one's fellows. Again, the publicity given to the best designs which are selected for publication is of benefit in some degree at least to their authors, many of whom have small opportunity to demon-

strate their ability even to members of the architectural profession.

The judging of these competitions is no small task. As is well known the judges are selected from among the best men in the profession. Their work is in no sense perfunctory but at all times serious and painstaking. It can be stated as a positive fact that in no instance has a member of one of these juries entered upon the work lacking in enthusiasm and a full sense of the responsibilities which rested upon him. If it were possible for contestants to look on while the work of judging one of these competitions is going on, there would be no question but that everyone would feel that the duties of the jurors were being faithfully and conscientiously fulfilled.

IT SEEMS advisable at this time to remind some contestants in the competitions given by THE BRICKBUILDER that they should adhere more strictly to the conditions specified in the programs. This is done in the spirit of helpfulness and not criticism. Many designs worthy of further consideration receive an H. C. simply because the designer has either carelessly or willingly ignored one or more of the requirements. In order to make our point clear we will cite a few instances which happened in connection with the recent Bungalow Competition:

The program asked for a pen and ink perspective without wash or color. In spite of this requirement a number of drawings submitted were rendered in washes of various tints, others were partly finished in pencil, or India ink so diluted that it would be impossible to make satisfactory reproductions from the drawings.

The program called for a sheet measuring exactly 26 inches by 20 inches. A number of drawings were received in which this condition had been absolutely ignored.

The program required that the sheet be of white paper and not to be mounted. Several drawings received were on thick cardboard, while others were on white paper mounted. In addition several drawings were on colored paper.

Quite a few drawings were received from three days to a week after the competition closed.

Six drawings were so badly packaged by the senders that when received they were torn and otherwise damaged beyond the possibility of repair.

Quite a number of drawings were sent with insufficient postage.

A few drawings were received without envelopes containing the *nom de plume* on the exterior and the true name and address of the contestant.



LUNETTE PANEL (8 FEET LONG) BY HOLABIRD & ROCHE, ARCHITECTS.  
Executed by Atlantic Terra Cotta Company.





DETAIL BY THEO C. VISSCHER, ARCHITECT.  
New Jersey Terra Cotta Company, Makers.

At least ten days is required to make the necessary arrangements and have one of these Competitions judged. As soon as possible after the Jury has made its report every contestant is notified as to whether or not his drawing received a Prize or Mention, and in addition a detailed notice is given in the next issue of *THE BRICKBUILDER*. The entire work is carried on with all the promptness and dispatch that circumstances will permit. It is quite impossible to answer all the telephone calls, — some of them long distance, — telegrams and letters which begin to



FIGURE OF INDIAN (6 FEET HIGH) FOR SUBSIDIARY BUILDING,  
PAN AMERICAN UNION, WASHINGTON, D. C.  
Executed by Atlantic Terra Cotta Company, Albert Kelsey and Paul Cret, Associated,  
Architects.

arrive the day following the closing of the Competition inquiring about the results.

One of the reasons for the promotion of these contests by *THE BRICKBUILDER* is to give to young men who are identified with the architectural profession an opportunity to acquire a training in small Competitions. If they cannot meet the simple requirements of one of *THE BRICKBUILDER* programs they would have little chance, if they were equally negligent, in a larger Competition.

It is manifestly unfair to those who have met all the requirements of a program to submit to the judges drawings which have ignored one or more of the requirements.

These conditions which have been cited in connection with the Bungalow Competition are equally true of previous Competitions.

As before stated, these criticisms are made with the sole

thought that in the future, competitors will see to it that all the requirements of the program are carefully observed, thus assuring to their design the careful and unbiased consideration of the Jury.

#### PLATE ILLUSTRATION.

FIRST NATIONAL BANK, BAR HARBOR, ME., PLATE 26.—This building is constructed of a local red brick having imitation limestone for the trimmings and a tar and gravel roof. Upon the interior the banking and directors' rooms are finished in mahogany with walls and ceilings of rough plaster and floors of marble tiles. The remaining rooms are decorated and painted in a light cream color. The basement provides for the heating apparatus and silver vault; the second floor, lawyers' offices and toilets. The contents of the building figure 65,000 cubic feet with a total cost, excluding furnishings and fittings, of approximately \$18,850, making the cost per cubic foot 29 cents. The furnishings and fittings cost approximately \$3,000 and the vault \$6,500.



DETAIL BY ALBERT  
E. WESTOVER,  
ARCHITECT.  
Conkling-Armstrong  
Terra Cotta Company,  
Makers.

**T**HE Board of Directors of the American Institute of Architects has appointed as members of the Committee on Public Information for the American Institute of Architects, D. Knickerbacker Boyd (chairman), Glenn Brown, and Frank C. Baldwin. The appointment of this committee was authorized by the resolution adopted at the last convention of the A. I. A., which was as follows:

*Resolved:* That the Board of Directors be requested to appoint a Special Committee on Public Information, the duties of which shall include the following:

To keep a record of such published matter as may be of interest to the profession and to send to such publications likely to be interested, information concerning the work of the Institute and of the profession.

To request monthly reports on matters of interest to the



DETAIL BY WALLIS & GOODWILLIE, ARCHITECTS.  
American Terra Cotta & Ceramic Company, Makers.



profession from Committees on Public Information of the several Chapters, which Chapter Committees shall be Sub-Committees for their respective territories of the Institute Committee.

To inform the press of the country in regard to Annual Conventions of the Institute and the work which the Institute is undertaking and has actually performed. To correct, through the press, popular misconceptions with regard to the practice of architecture and to rectify erroneous statements affecting the profession.

To keep constantly before the public the aims, aspirations and accomplishments of the profession through its organized body, the Institute.

#### JOHNS HOPKINS UNIVERSITY is about to

begin the construction of an extensive group of buildings intended to house all its activities except the hospital and medical school. These buildings will be erected upon a site of one hundred and fifty acres fronting on Charles street, Baltimore, two miles north of the Monument. The grounds include the seat of the Carroll family and the mansion known as Homewood.

An advisory board, consisting of Grosvenor Atterbury of New York, Frank Miles Day of Philadelphia, and Frederick Law Olmsted of Boston, has been appointed to develop the problem of the new buildings and grounds. It is expected that actual construction will begin at Homewood during the present summer.

The group will contain laboratory buildings for chemistry, physics, biology, geology, and engineering, but its main feature will be the academic and library building. There will be dormitories, refectories, a students' hall, and a gymnasium.

#### THE DESIGN OF HIGH CHIMNEYS.

IN a recent paper by Henry Adams before The Society of Engineers the problem of chimney designing was discussed from a theoretical and practical viewpoint. As this is a problem which architects are often called upon to meet, we give herewith a few of Mr. Adams' deductions. The first



DETAIL FROM FISKE & CO., INC., NEW YORK OFFICE.  
Tapestry brick with fountain of Hartford faience.



DETAIL BY DWIGHT H. PERKINS, ARCHITECT.  
Northwestern Terra Cotta Company, Makers.

consideration in high chimney design is the height necessary to insure proper draft. One rule for this is to proportion the height according to the coal consumption per week of 56 hours, thus: 4 tons per week, 75 feet high; 13 tons per week, 100 feet high; 26 tons per week, 120 feet high; 50 tons per week, 150 feet high; 100 tons per week, 180 feet high; 150 tons per week, 200 feet high. Another rule is to make the height of the chimney three times the length of the boiler plus twice the distance of the farthest boiler to the chimney. This allows one foot of height for every foot the gases travel around the boiler and two feet of height for every foot of external flue.

There are many different rules for determining sectional area, some depending

upon the coal consumption, some upon fire-grate area, and others upon the evaporation of water. Simple approximate rules are: (a) 1 square foot area for each cwt. of coal burnt per hour; (b) area =  $\frac{1}{10}$  of the total fire-grate area, each flue being  $\frac{1}{5}$  of its fire-grate area, and main flue  $\frac{1}{8}$  of total; (c)  $2\frac{1}{2}$  square inches per indicated horse-power of the engine; (d) if the height of the chimney is taken into account, as of course it should be, then on the average —

$$\text{area} = \frac{\text{lb. of coal burnt per hour}}{12\sqrt{\text{height in feet}}}$$

$$\text{or} \quad \frac{\text{fire-grate area sq. ft.}}{1.5\sqrt{\text{height in feet.}}}$$

Mr. Adams states that the circular chimney is most effective for its area, as it takes the least material for its construction and permits of no angles for the accumulation of soot. With any chimney it is considered desirable to add 2 inches all around to the calculated minimum area to allow for friction. A safe wind pressure on plane surfaces normal to the direction of the wind is 56 pounds per square foot. His formula for wind pressure according to the width and height of the structure is as follows:  $\log p = 1.125 + 0.32 \log h - 0.12 \log w$ ; where  $p =$

ultimate wind pressure in pounds per square foot necessary to be allowed for against a plane surface normal to the wind;  $h =$  height in feet of center of gravity of surface



HOUSE AT GREENWICH, CONN., H. C. PELTON, ARCHITECT.  
Roofed with Old Mission Tile made by Ludowici-Celadon Company.

considered, above ground level;  $w$  = width in feet of part to be taken as one surface.

Theoretically the batter of the chimney should be taken into account in determining wind pressure, but its effect is so slight as to be negligible.

A square chimney will give the same resistance whether facing the wind or diagonal to it, as the greater area of the inclined surface with the reduced pressure upon it make the same total as the flat side under full pressure.

Up to 150 feet high or 5 feet inside diameter the top length is generally one brick thick; above that height or diameter, the top length should be  $1\frac{1}{2}$  bricks thick, and the thickness should be increased by a  $\frac{1}{2}$ -inch set-off at every 20 feet below the top.

If the diameter of the throat is kept uniform and a  $\frac{1}{2}$ -inch set-off occurs at every 20 feet, the intermediate portions being of uniform thickness, a batter of 1 in 53.33 will be given.

The fire-brick lining must be entirely self-supporting and have a clear space behind, to allow for expansion and contraction independently of the main structure, which would be prevented if dirt and dust were to get behind it.

It is important to note that a high chimney should stand on an independent foundation in order that any compression of the soil may be uniform.



HOUSE AT CONVENT, N. J., PERCY GRIFFIN, ARCHITECT.  
Built of Standard Fire Flashed Brick made by Ohio Mining & Manufacturing Company.

#### TERRA COTTA FOR THE HILLIARD BUILDING.

THE architectural terra cotta for the Hilliard Building, New York, — Howells & Stokes, architects — described in this issue, was furnished by the New York Architectural Terra Cotta Company.

#### IN GENERAL.

Warren W. Day, architect, has removed his offices to 527 Main street, Peoria, Ill. Manufacturers' samples and catalogues desired.

H. A. Brooker and J. Adam Fichter have associated for the practice of architecture under the firm name of Fichter & Brooker, offices Second National Building, Akron, Ohio.



MERCANTILE BUILDING, WALKER AND WHITE STREETS, NEW YORK,  
SCHWARTZ & GROSS, ARCHITECTS.  
Built of brick furnished by Pfotenhauer-Nesbit Company.

Fountain & Moratz, architects, have removed their offices to the Euclid Building, Cleveland, Ohio.

The fascia to the balconies, the caps, bases, and pilaster corners in the Grill Room of the Hotel Vanderbilt, illustrated in this number, were furnished by the Rookwood Pottery Company of Cincinnati. This work was all executed in colored faience.

Gove and Walsh, architects, have removed their offices to the Boston Building, Denver, Colo.

Columbia University, New York, has under consideration the organization of a Faculty of Fine Arts in co-operation with the National Academy of Design and the Metropolitan Museum of Art.



BUILDING FOR UNION PACIFIC RAILROAD, OMAHA, NEB.  
JARVIS HUNT, ARCHITECT.  
Built of gray speckled Standard and Norman Brick made by Columbus  
Brick & Terra Cotta Company.

The first great national movement of the clayworkers of this country will culminate in the Clay Products Exposition to be held in the Coliseum, Chicago, March 7th to 12th. It is the especial purpose of this Exposition to acquaint the public with the various types of clay products which enter into building construction and to encourage a

better class of building, especially on the part of the home builder. This Exposition promises to be a revelation, to the thousands who will undoubtedly attend, of the esthetic and constructive possibilities which are to be obtained by the use of burnt clay in its various forms. The best designs submitted in THE BRICKBUILDER Competition for a Bungalow will be exhibited at the exhibition.



NATIONAL BANK OF NEW JERSEY,  
NEW BRUNSWICK, N. J.  
Architectural Terra Cotta furnished by South  
Amboy Terra Cotta Company.

Sayre & Fisher Company supplied their Roman mottled brick for the exterior of the Hilliard Building which is illustrated and described in this number.

The H. B. Smith Company installed the boilers in the Hilliard Building which is illustrated and described in this number.

The Hydraulic-Press Brick Company, St. Louis, furnished the brick for the Lionberger House, St. Louis, Cope & Stewardson, architects, which is illustrated in the plate forms of this number.

The Krippendorff-Dittman Company, of Cincinnati, used several hundred gallons of Cabot's Red Waterproof Brick Stain on their buildings, and after two years' wear their neighbors, the Perkins-Campbell Company, wrote, "We like very much the appearance of this building," and bought a large quantity for their own seven-story building.

R. Guastavino Company announce the removal of their Boston office to 60 State street.

The Indianapolis office of the Western Brick Company has been removed to the Hume-Mansur Building.

The Cincinnati agency of the Ohio Mining & Manufacturing Company has been changed to the Pursell-Grand Company, Mercantile Library Building. The Cleveland agency of the same company has been changed to the Cleveland Brick Sales Company, Schofield Building.

The Atlantic Terra Cotta Company has just issued a very attractive booklet in which is illustrated an unusually fine collection of Catholic Church work for which the Atlantic Company supplied the architectural terra cotta.

Full-size designs and models have been prepared for King Edward's Memorial, London, by Messrs. Edwin L. Lutyens, architect, and Bertram Mackennal, sculptor. This work will be placed on the broad walk in the Green Park when finally passed upon by the Memorial Committee.

Considerable interest is being manifested over the action of the Board of Education, Los Angeles, Cal., inviting local architects to submit tentative plans for organizing an architectural department in the public schools. This is surely a step in the right direction. If the cardinal principles of pure design and construction are instilled into the young it will enable future generations to



DETAIL BY C. B. J. SNYDER, ARCHITECT.  
Brick, Terra Cotta & Tile Company, Makers.



know and appreciate the difference between good and bad art. It will raise the standard of architecture and be of inestimable value to the artistic development of our cities.

The historic building called the House of Queen Berengère, located in the Quartier du Marais, Paris, will, it is reported, soon be taken down, and rebuilt in America. This unceasing vandalism according to French authorities will soon result in a law giving State supervision over all ancient buildings of artistic or historic value.

Works of ancient art and of the Roman occupation have been recently discovered in Tripoli, Africa. The draped sculptures date from the fourth century, B. C., and are considered as family statues. Of more interest is the rediscovery of the two tombs at Gargaresch which belong to the Roman period.

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### BULLETIN

RECENT WORK, illustrated in this issue of  
THE BRICKBUILDER

Enoch Pratt Free Library, Forest Park, Baltimore, Md., Plate 27

ELLICOTT & EMMART, Architects

The Birmingham Ledger Bldg., Birmingham, Ala.

Plate 28

WM. LESLIE WELTON, Architect

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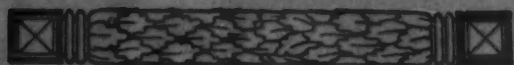
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ARCHITECTURAL  
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NUMBER

(EXTRA EDITION TO VOL. XXI NO. 2)  
FEBRUARY, 1912



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STORE AND LOFT  
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DESIGNS



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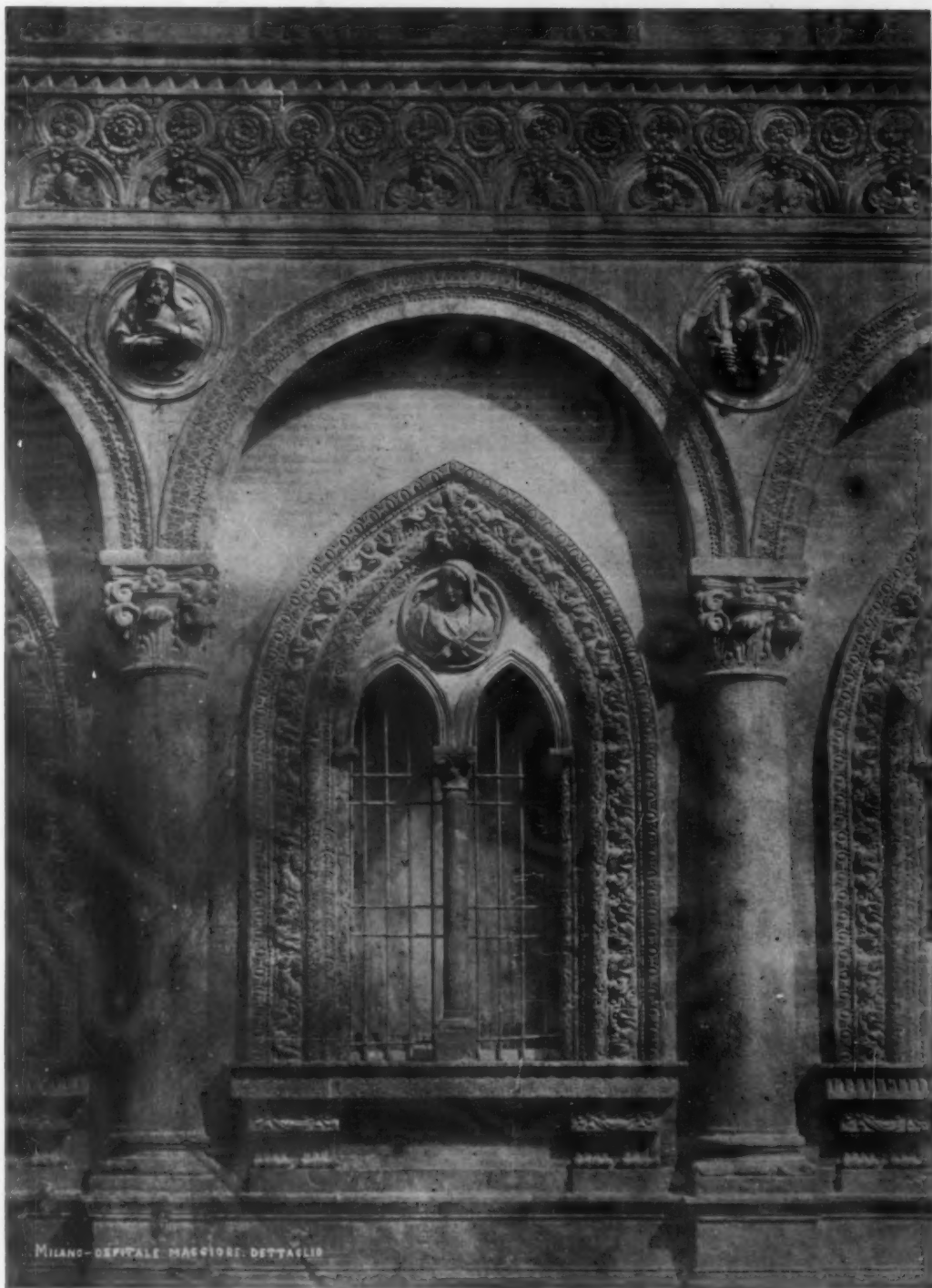
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## Architectural Terra Cotta Number

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HONORABLE MENTIONS.

**T**HE problem is a COMBINATION STORE AND LOFT BUILDING FROM FOUR TO SIX STORIES HIGH. The site is assumed to be in the middle of a city block located in the shopping district. The land is level and has 50 feet frontage and is 100 feet deep. The building is to cover the entire lot on the first floor only, with suitable provision for natural lighting of rear portion of this floor. The lighting of other floors is left to the designer. The basement, first and second floors are to be occupied by a concern doing a retail business. Since the character of the business may influence the design it is suggested that the store portion of the building be treated either for the sale of pianos, jewelry, millinery, men's furnishings, boots and shoes, furs, sporting goods, or some similar line of business. The plans above the second story are to be of the loft type.

The exterior of the building is to be designed entirely in architectural terra cotta, and it is suggested that at least portions of the walls be treated in color. It is further suggested that provision be made in the design for the placing of signs.

The object of this competition is to encourage a study of the use of architectural terra cotta in this particular type of building. There is no limit set on the cost, but the design must be suitable for the character of the building and for the material in which it is to be executed.

The following points will be considered in judging the designs:

A—The general excellence of the design, its adaptability to the prescribed material and character of the building under consideration.

B—The excellence of the first-story plan which, in addition to an attractive frontal treatment, must provide an entrance to a hallway in which will be located an elevator and staircase.

### DRAWING REQUIRED. (There is to be but one.)

On a sheet of unmounted white paper measuring exactly 35 inches by 26 inches, with strong border lines drawn one inch from edges, giving a space inside the border lines of 33 inches by 24 inches, show:

The front elevation drawn at a scale of four feet to the inch.

The first-floor plan and a typical loft plan drawn at a scale of 16 feet to the inch.

A sufficient number of exterior details drawn at a scale of one-half inch to the foot to completely fill the remainder of the sheet.

The details should indicate in a general way the jointing of the terra cotta and the sizes of the blocks.

The color scheme is to be indicated either by a key or a series of notes printed on the sheet.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales are to be shown.

Each drawing is to be signed by a nom de plume, or device, and accompanying same is to be a sealed envelope with the nom de plume on the exterior and containing the true name and address of the contestant.

The drawing is to be delivered flat, or rolled (packaged so as to prevent creasing or crushing), at the office of THE BRICKBUILDER, 85 Water street, Boston, Mass., charges prepaid, on or before January 8, 1912.

Drawings submitted in this competition must be at the owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others.

The designs will be judged by three or five well-known members of the architectural profession.

**For the design placed first in this competition there will be given a prize of \$500.**

**For the design placed second a prize of \$250.**

**For the design placed third a prize of \$150.**

**For the design placed fourth a prize of \$100.**

The manufacturers of architectural terra cotta are patrons of this competition.

The competition is open to every one.



## Report for the Jury and Criticism.

BY PROFESSOR DUQUESNE.

THE problem proposed seems to have been particularly interesting to the competitors. The very precise and clear conditions and requirements given in the program leave no doubt as to the intentions of the author, who wished above all to emphasize the proper forms and appropriate uses of architectural terra cotta, a material coming into more and more frequent use.

If we analyze a little in detail the essential requirements which the competitors should satisfy, we find that this particular program demands — first, a large development of window opening, on account of the limitations of the building between party-walls and the depth of the lot — then such a conception of plan that each manufacturer or merchant housed in the upper stories has for his use the maximum of floor space possible, with the stairs and elevators so arranged as to assure him convenience and independence, and also that the occupant of the first floor should be able, if he so wished, to annex to his establishment the second floor and should have his own particular entrance.

Let us take up and examine each of the premiated designs: we will see how well they have fulfilled the conditions of the program, point out the good qualities, and show some of the faults.

**FIRST PRIZE.** Was given for the straightforward conception of façade which is well adapted to be placed between party-walls, for the good general relations and proportions of its upper and lower stories, and for the ingenious disposition and repetition of the different decorative motives which are treated in detail with thought and skill. There are certain faults not hard to find — namely, complications of plan, where there are brought in on each story certain unlighted rooms entirely uncalled for in the program, also a lack of development of window opening in façade, faults easily remedied without change of the scheme.

**SECOND PRIZE.** Notwithstanding a good plan entirely typical and proper for the proposed building, notwithstanding even the large and frank openings of a façade rightly treated as between party-walls, this study of the problem obtained only second place. This was chiefly on account of the monotony of the different stories. The lower and upper stories are not in any way distinguished from the others, and both the loft and store entrances seem to be afterthoughts placed in the large show-window of the first floor. The excessive rigidity of the forms used did not seem to us to be particularly appropriate to a material which, in keeping with our times, can be made pleasing and graceful by a richness and variety of forms.

**THIRD PRIZE.** Shows with frankness its lower stories separated from the upper ones, has a reasonable plan and a façade adapted to the conditions and material prescribed. One can only regret the extra entrance, entirely uncalled for in the program, and the heaviness of the crowning motive accompanying it; also the returning of the cornice and band courses, which the restriction of between-party-walls in no way authorizes.

**FOURTH PRIZE.** On the contrary understood the condition of between party-walls, has a well-arranged first floor with its large show window and two doors and has given a plan which seems better than that of the preceding design. The decorative forms, too, have a grace which

lends itself well to the material employed, but the monotony of the lateral treatment of the bays above the second floor was criticized and gives the impression of being insufficiently terminated at the sides.

**FIRST MENTION.** Disposes its elements in façade somewhat like the first prize, but the barrenness of its crowning feature, the fault of scale in the entrance motives, and the exaggerated height of its second floor, were not sufficiently offset by its good points and the very practical plan.

**SECOND MENTION.** Reminds us of certain palaces of the Italian Renaissance with their decoration of scraffito. Evidently terra cotta can be made to recall decoration of this kind and it was for this reason and because of the beauty of its general form and its fairly good plan, and notwithstanding the faults of its profiling cornice, the introduction of so many arches in a building that should be industrial in its character above all, and its impractical second story, that this design was given its place.

**THIRD MENTION.** Is in contrast with the preceding design with its frank and wide openings and its industrial character. It has a well-conceived scheme of decoration but the position of its stairs is defective and to be criticized, as is also the crowning feature which cuts the openings of the top story to peculiar shapes and would make necessary a very special roof to which the competitor has probably not given much thought.

**FOURTH MENTION.** Shows ingenuity in its general arrangement. The idea expressed in both plan and façade of keeping in a special bay the loft entrance, elevators and stairs, is in accord with the requirements of the program, but it is to be regretted that this composition was not carried out more thoughtfully and completely. It shows faults such as the thinness of the supports at the ends of the façade, a lack of relation between the large openings of the lofts and those of the entrance bay, lack of relation between first and second floor which are so clearly tied together that they should accord better, and finally a complication of upper crowning motive, all faults which would certainly have disappeared with a more serious and thoughtful study.

**FIFTH MENTION.** Got its place on account of the broadness given to the bays and the simple and utilitarian spirit sought for by its author. The two entrances appear to have been put in after the building was designed, and one wonders why the piers were terminated like chimneys.

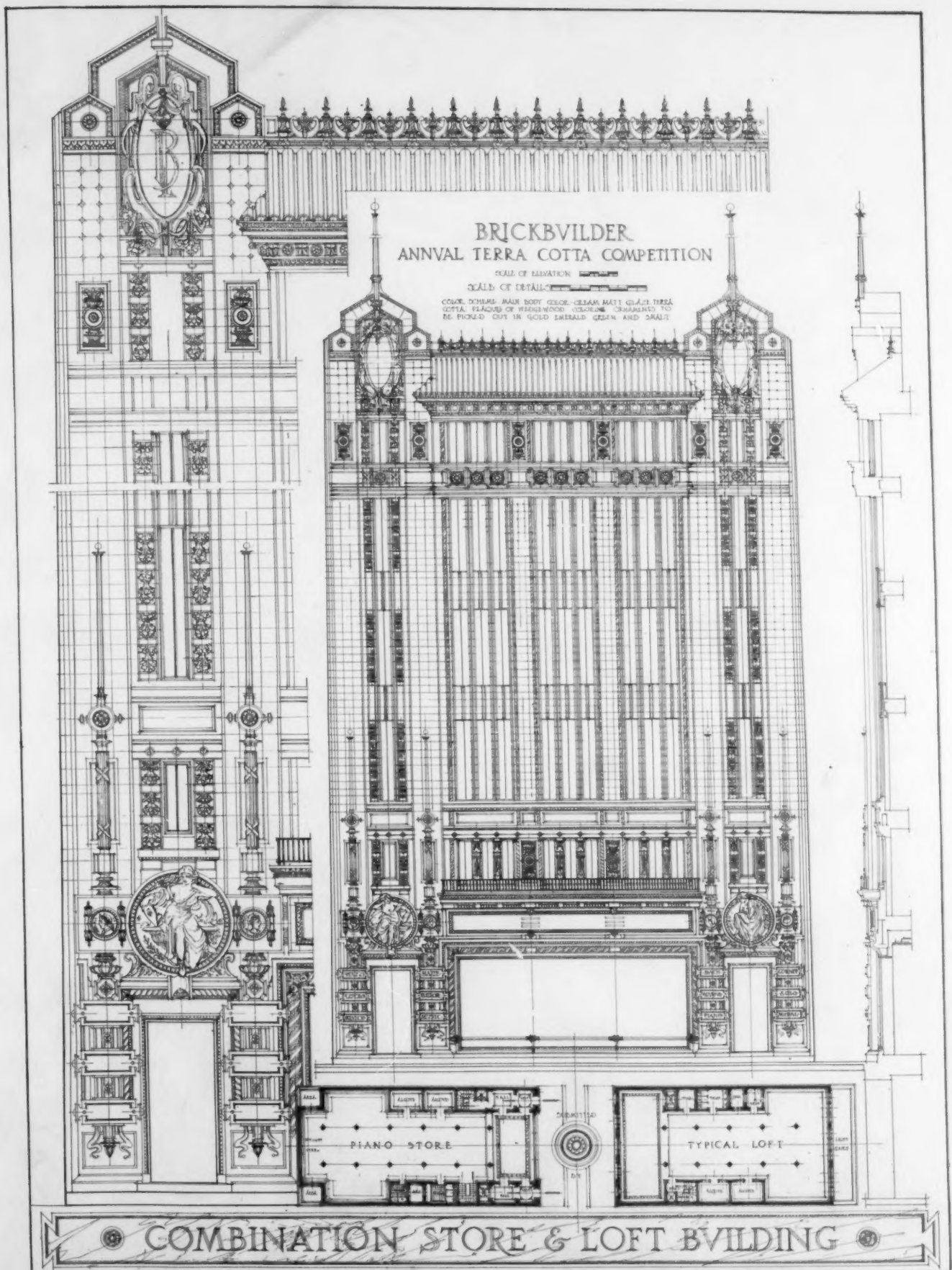
**SIXTH MENTION.** Is distinguished for a well-understood plan and finely wrought detail. One regrets the smallness of the windows and their great number, but the general conception is one of a building between party-walls and the fault of scale could be defended with the explanation that the building was to be occupied by retail jewelers or milliners, and not by furniture- or piano-dealers, who would be more suitably housed in some of the buildings, the designs of which we have already examined.

PROF. EUGENE DUQUESNE  
PROF. H. LANGFORD WARREN  
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*Jury of Award.*

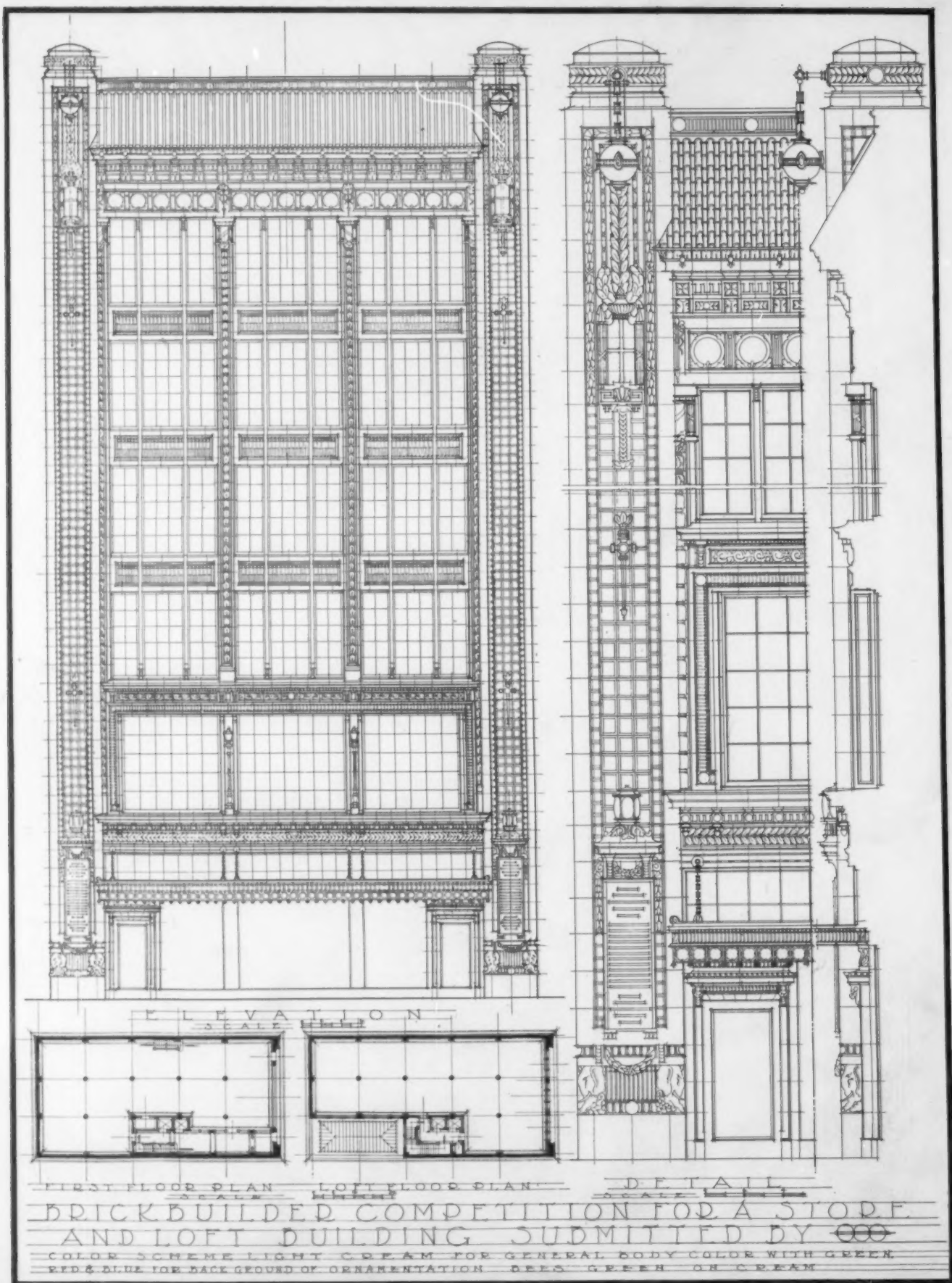
After the Prize and Mention designs no attempt has been made to arrange the others in the order of their merit.



FIRST PRIZE DESIGN.

Submitted by I. P. Lord and F. D. Bulman, Boston, Mass.

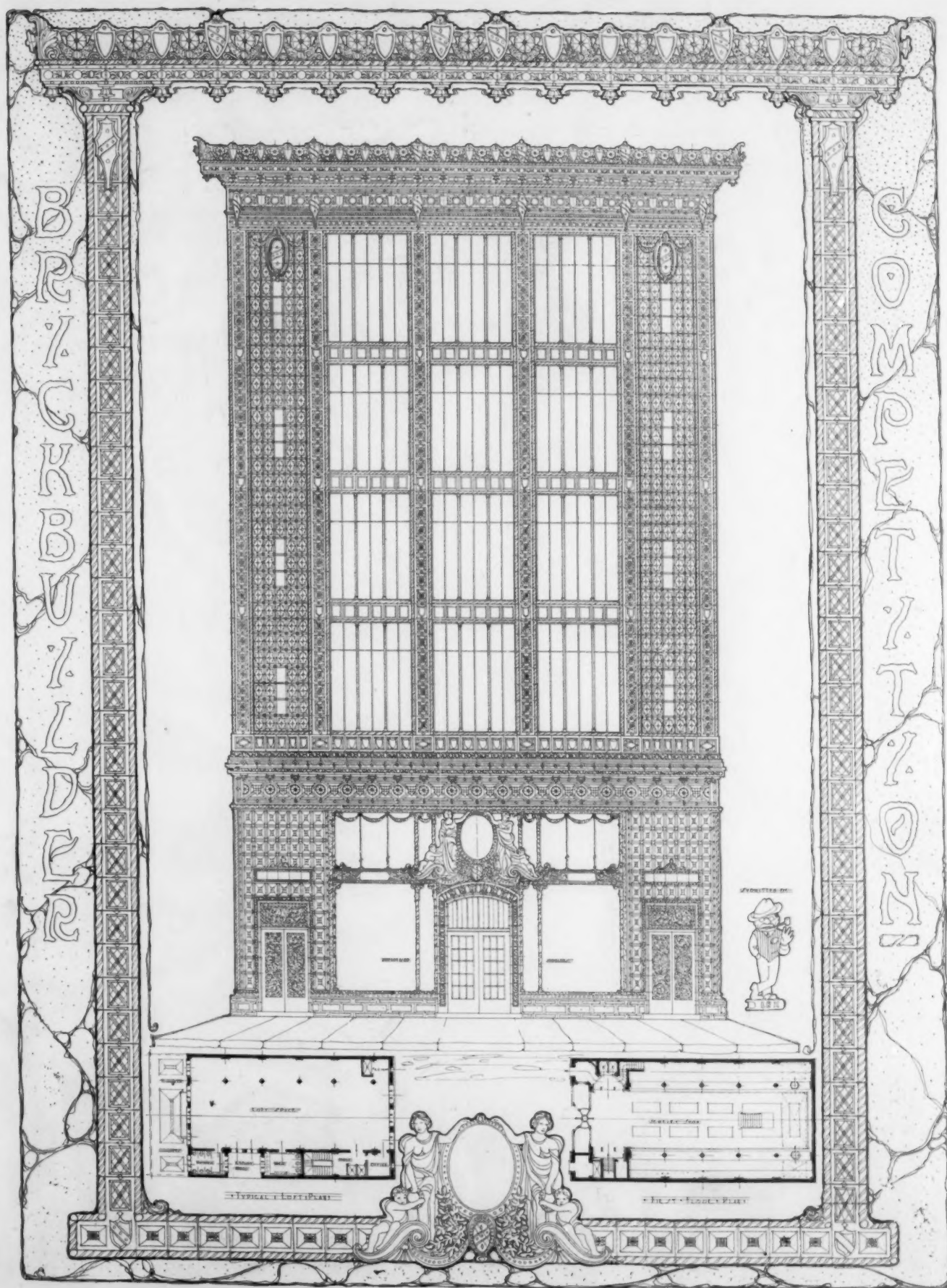




SECOND PRIZE DESIGN.

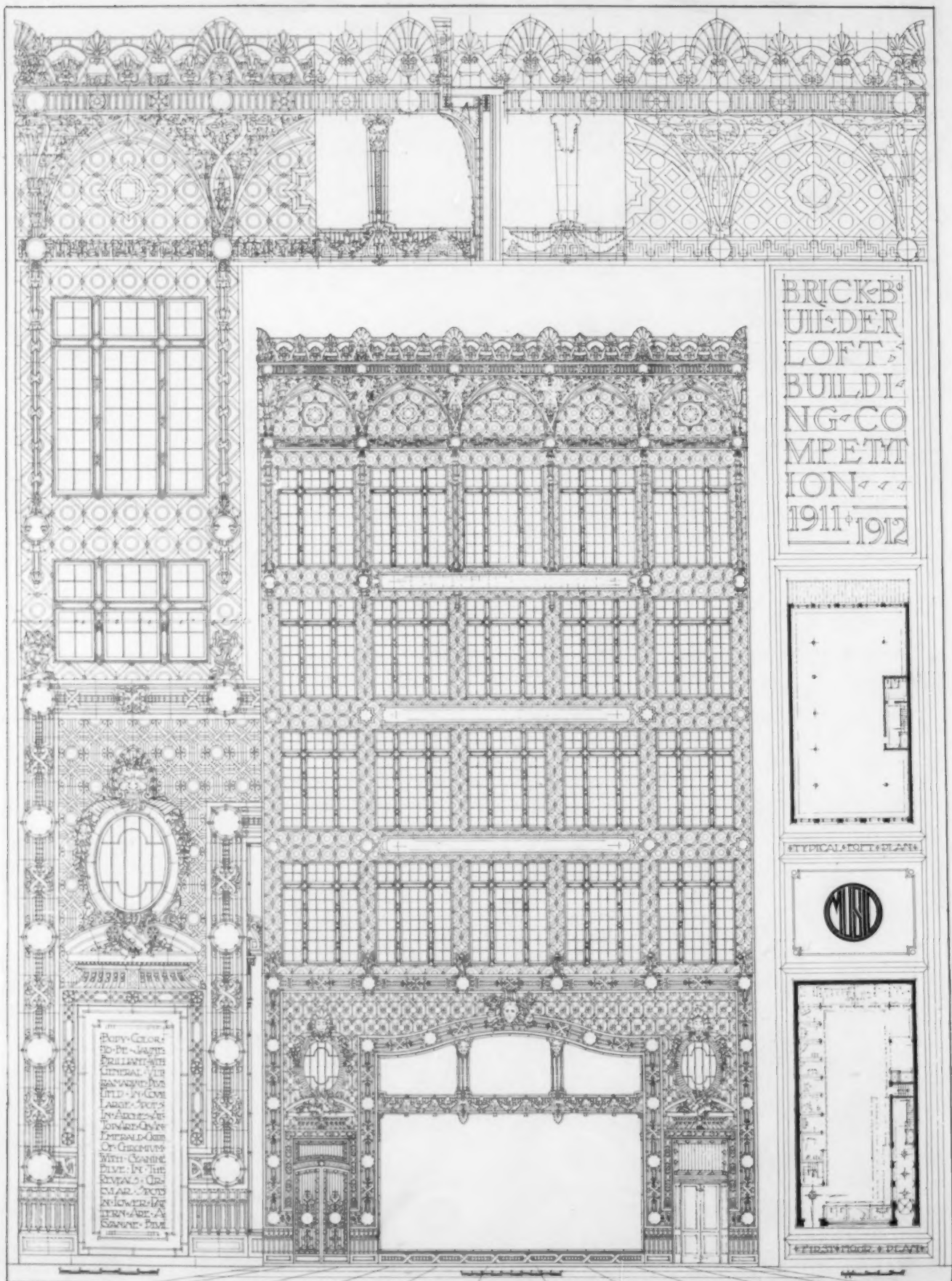
Submitted by Claud W. Beelman and Walter Scholer, Indianapolis, Ind.





THIRD PRIZE DESIGN.

Submitted by Jack Lehti, Washington, D. C.



FOURTH PRIZE DESIGN.

Submitted by Wm. F. Burkhardt and G. Evans Mitchell, New York City.



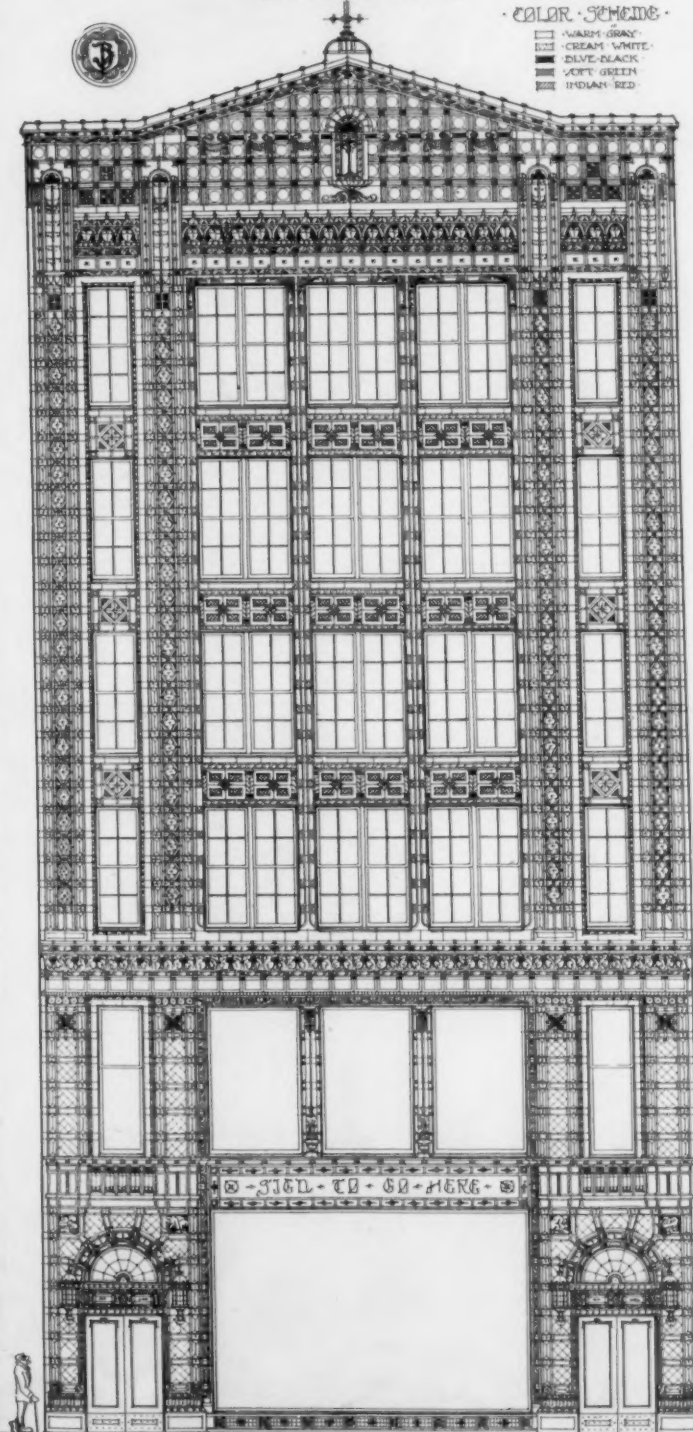
BRICKBUILDER COMPETITION

FOR  
A STORE & LOFT BLDG  
OF TERRA-COTTA.

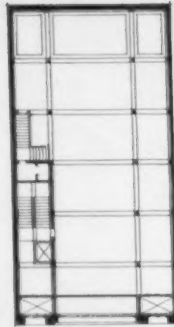


COLOR SCHEME

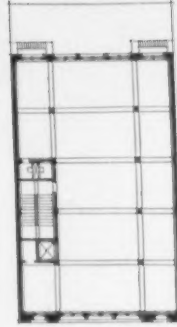
- WARM GRAY
- CREAM WHITE
- BLUE-BLACK
- SOFT GREEN
- INDIAN RED



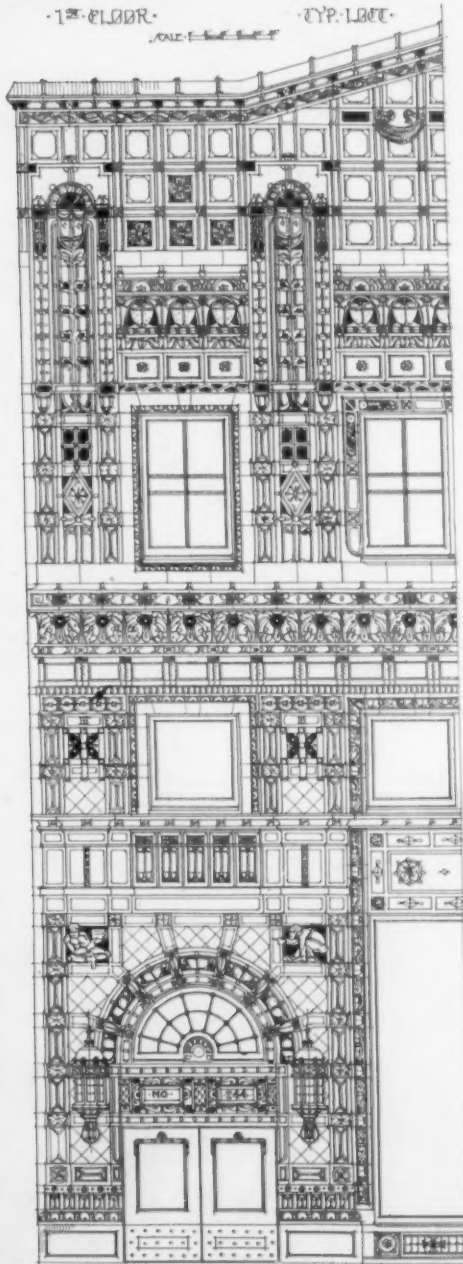
ELEVATION  
SCALE 1" = 10'



1<sup>ST</sup> FLOOR



TYP. LOFT



DETAIL  
SCALE 1" = 10'

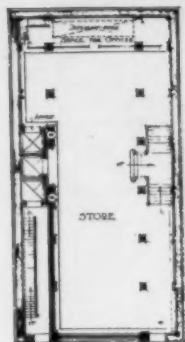
FIRST MENTION.

Submitted by William R. Schmitt, New York City.





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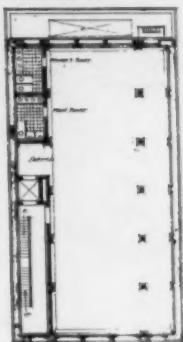


FIRST FLOOR PLAN

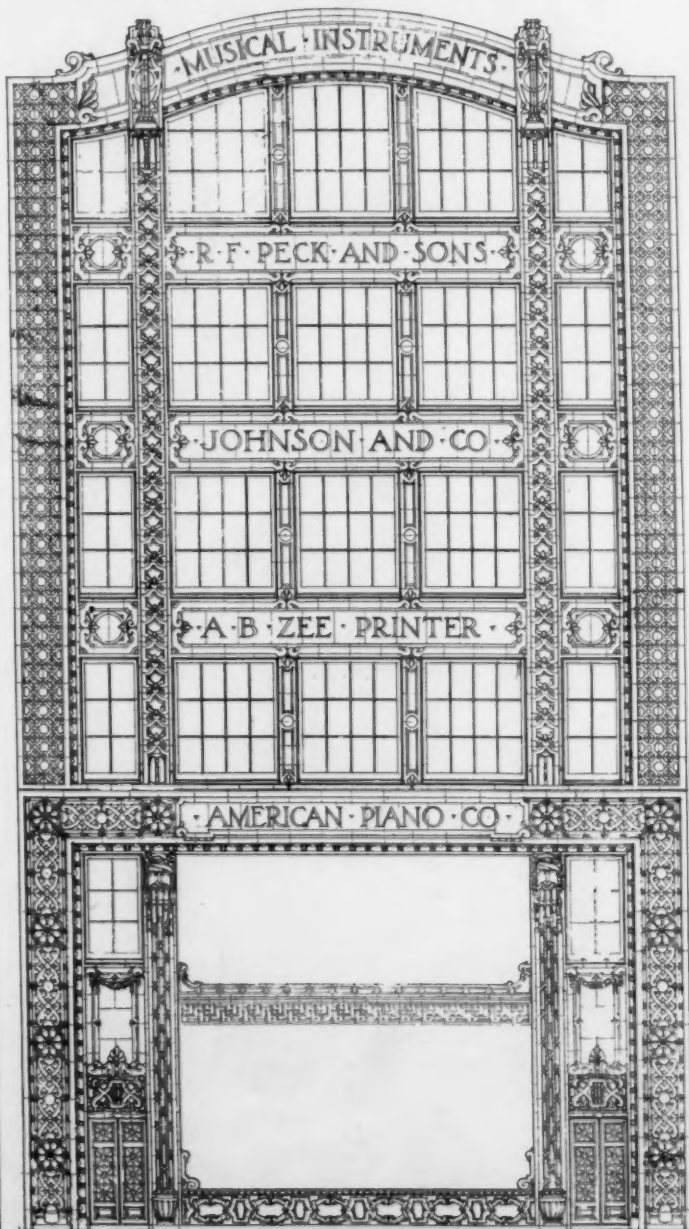
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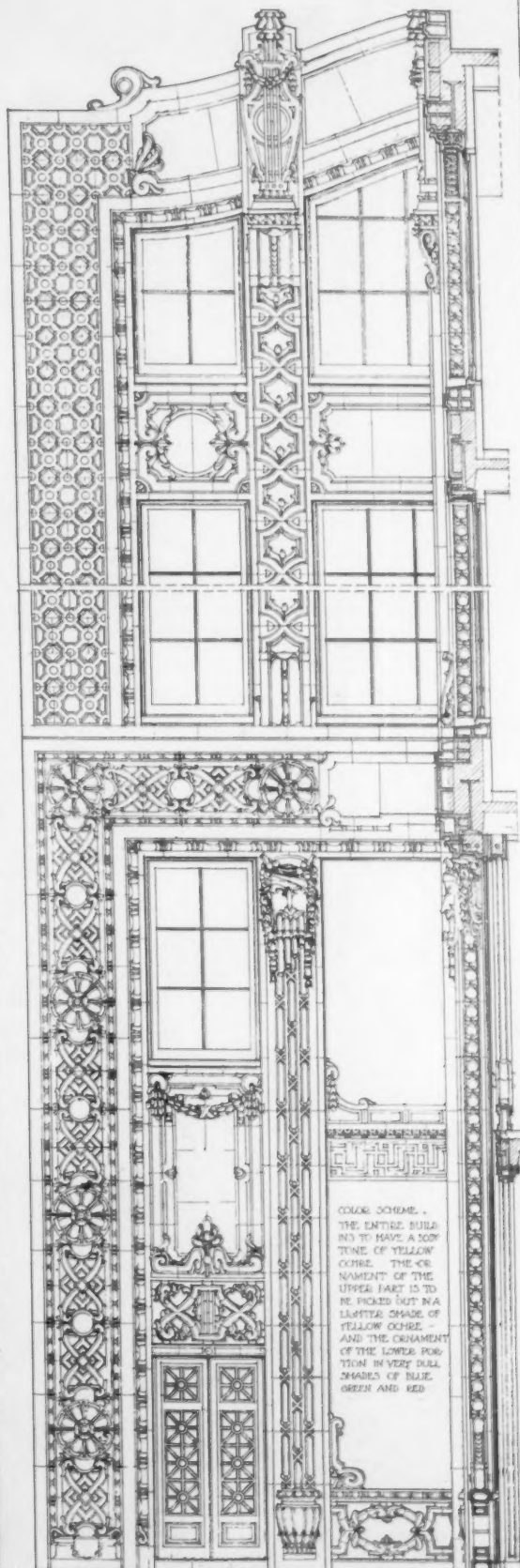
GEORGE RICHARD KLINKHARDT



TYPICAL LOFT PLAN



ELEVATION



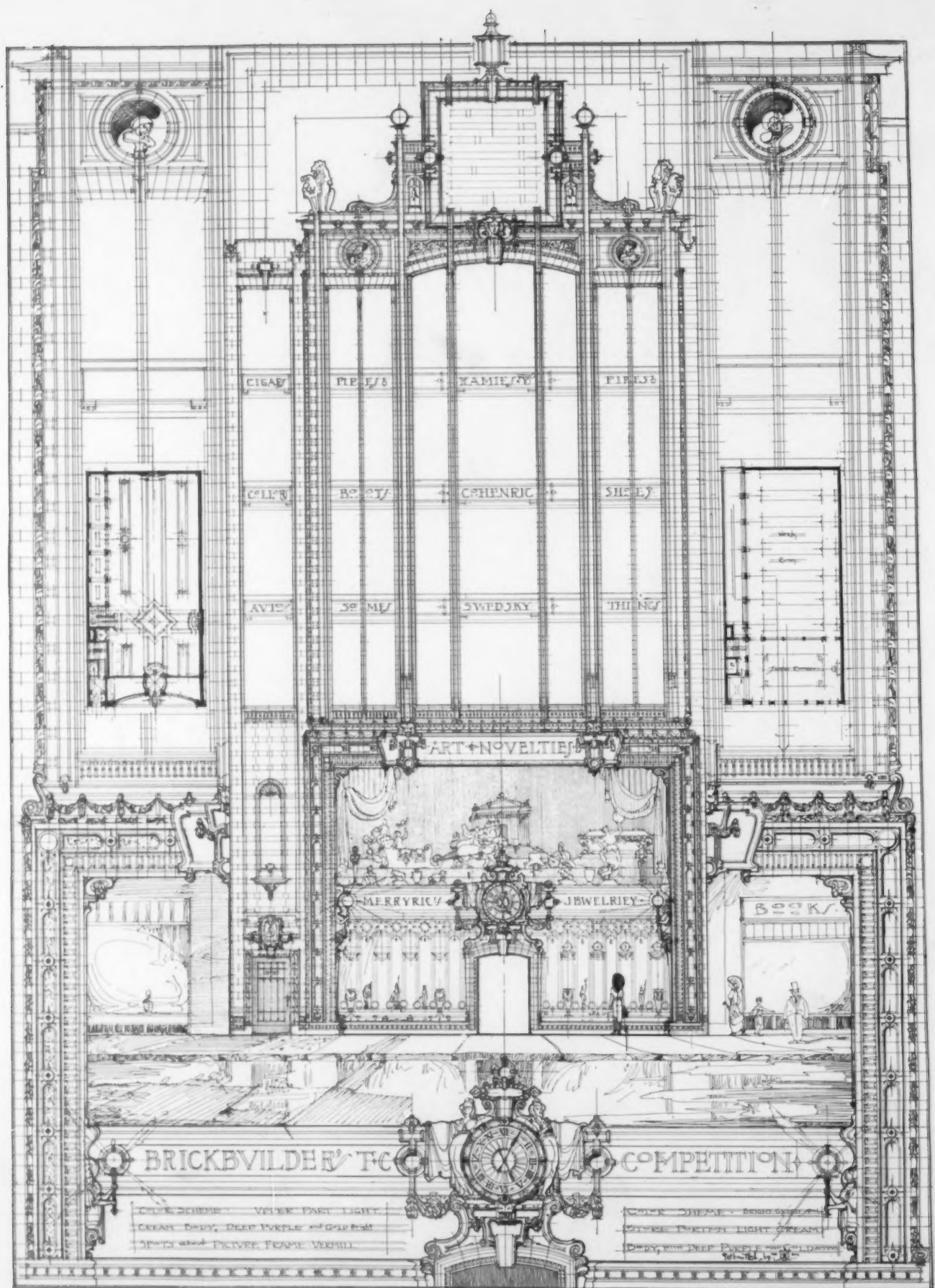
DETAIL

COLOR SCHEME. -  
THE ENTIRE BUILDING  
TO HAVE A SOFT  
TONE OF YELLOW  
OCHRE. THE OR-  
NAMENT OF THE  
UPPER PART IS TO  
BE PICKED OUT IN A  
LIGHTER SHADE OF  
YELLOW OCHRE. -  
AND THE ORNAMENT  
OF THE LOWER POR-  
TION IN VIVID BLUE,  
SHADES OF BLUE,  
GREEN AND RED.

THIRD MENTION.

Submitted by George Richard Klinkhardt, New York City.

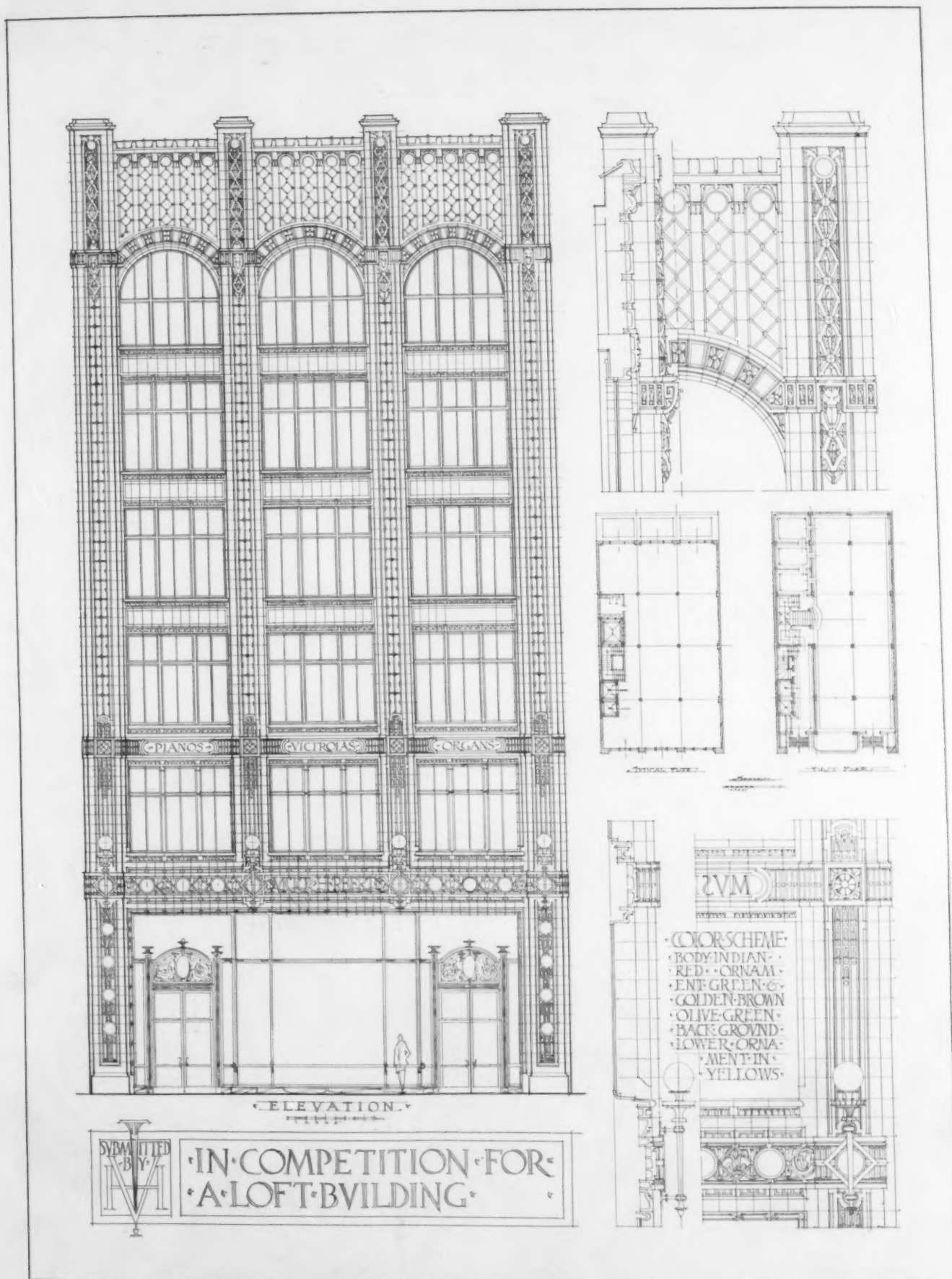




FOURTH MENTION.

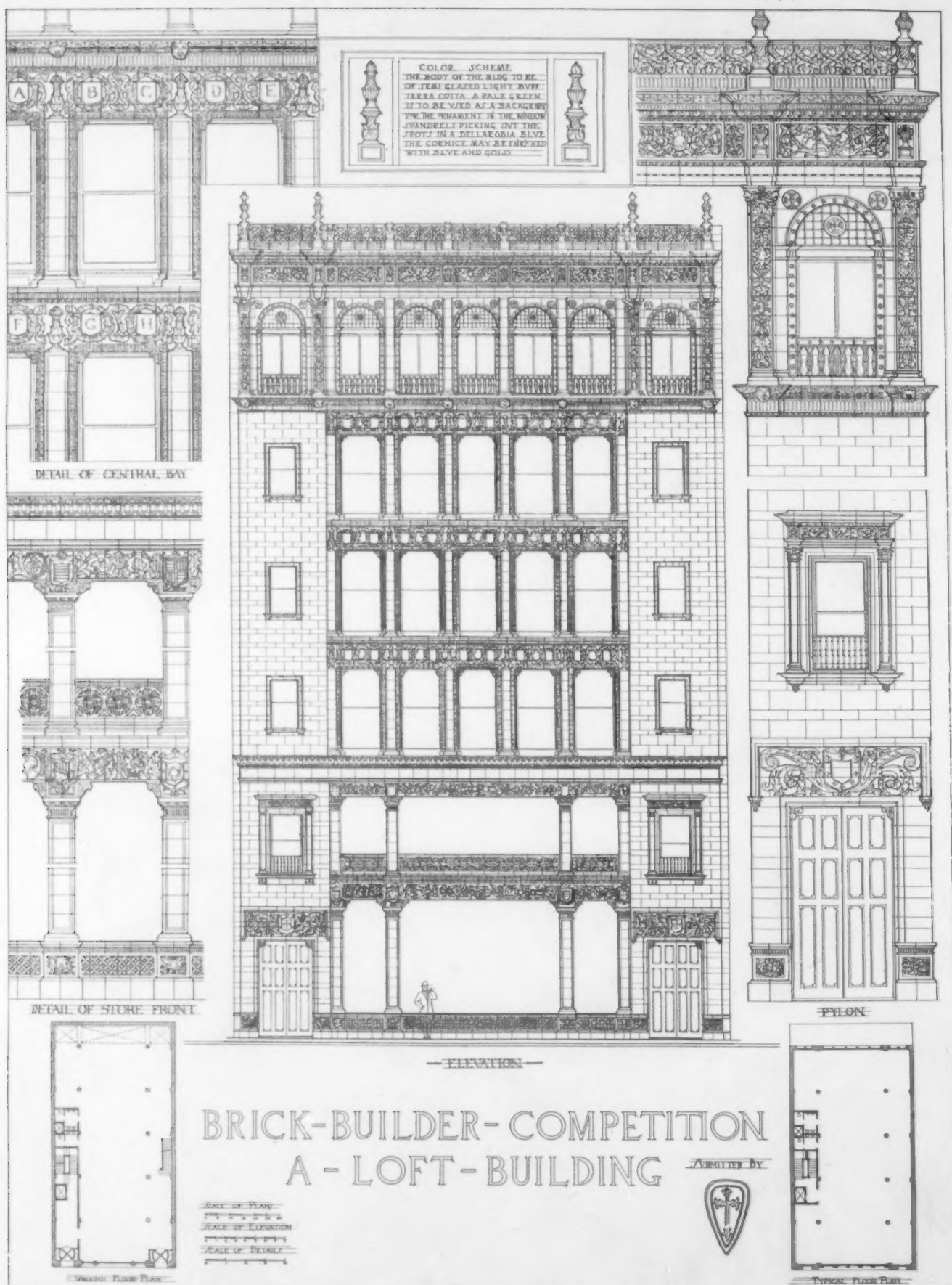
Submitted by J. Frederick Larson, Montreal, Canada.





FIFTH MENTION.

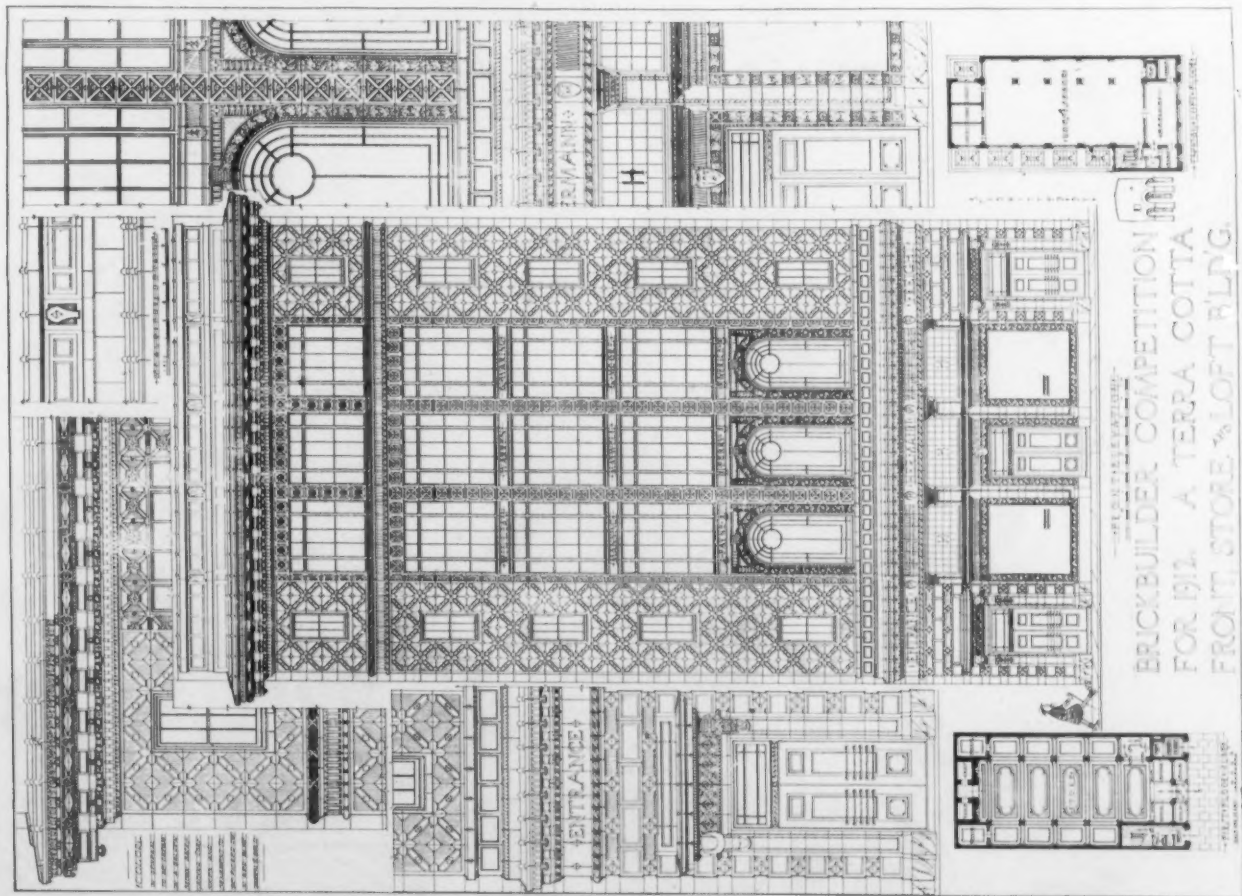
Submitted by Wirt C. Rowland and Herbert Wenzell, Detroit, Mich.



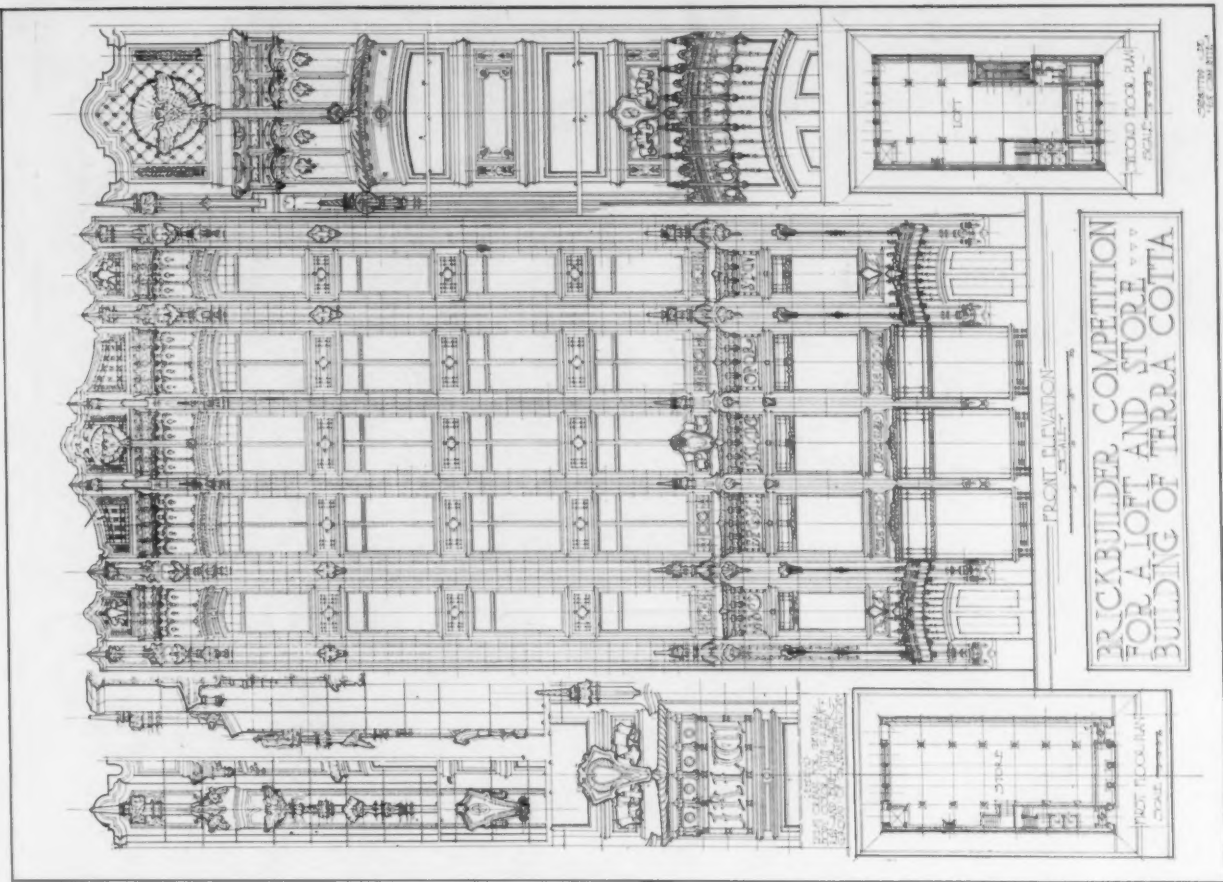
SIXTH MENTION.

Submitted by Charles G. Beersman and Frank A. Engel, New York City.





SUBMITTED BY HENRY JAY BRIGGS, WASHINGTON, D. C.



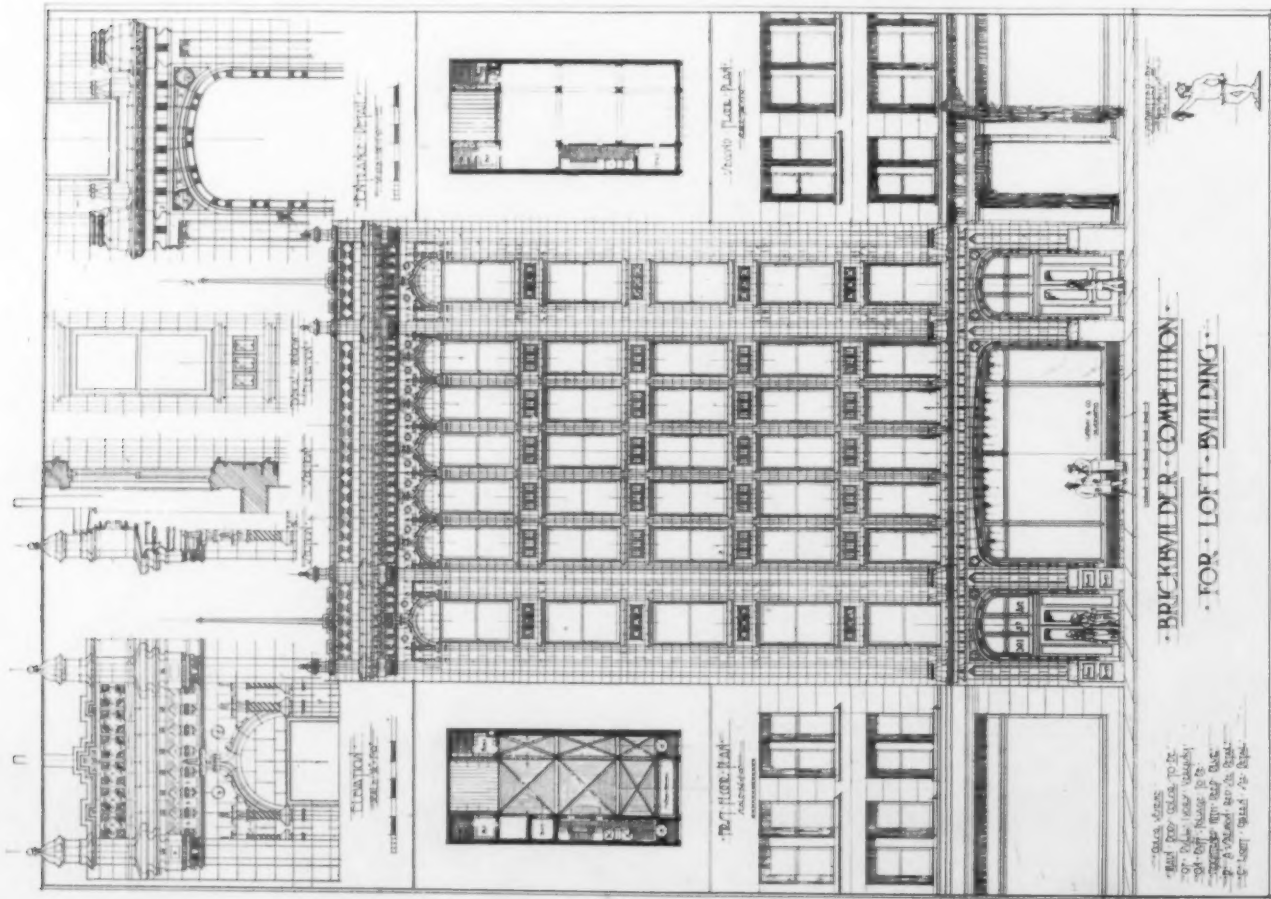
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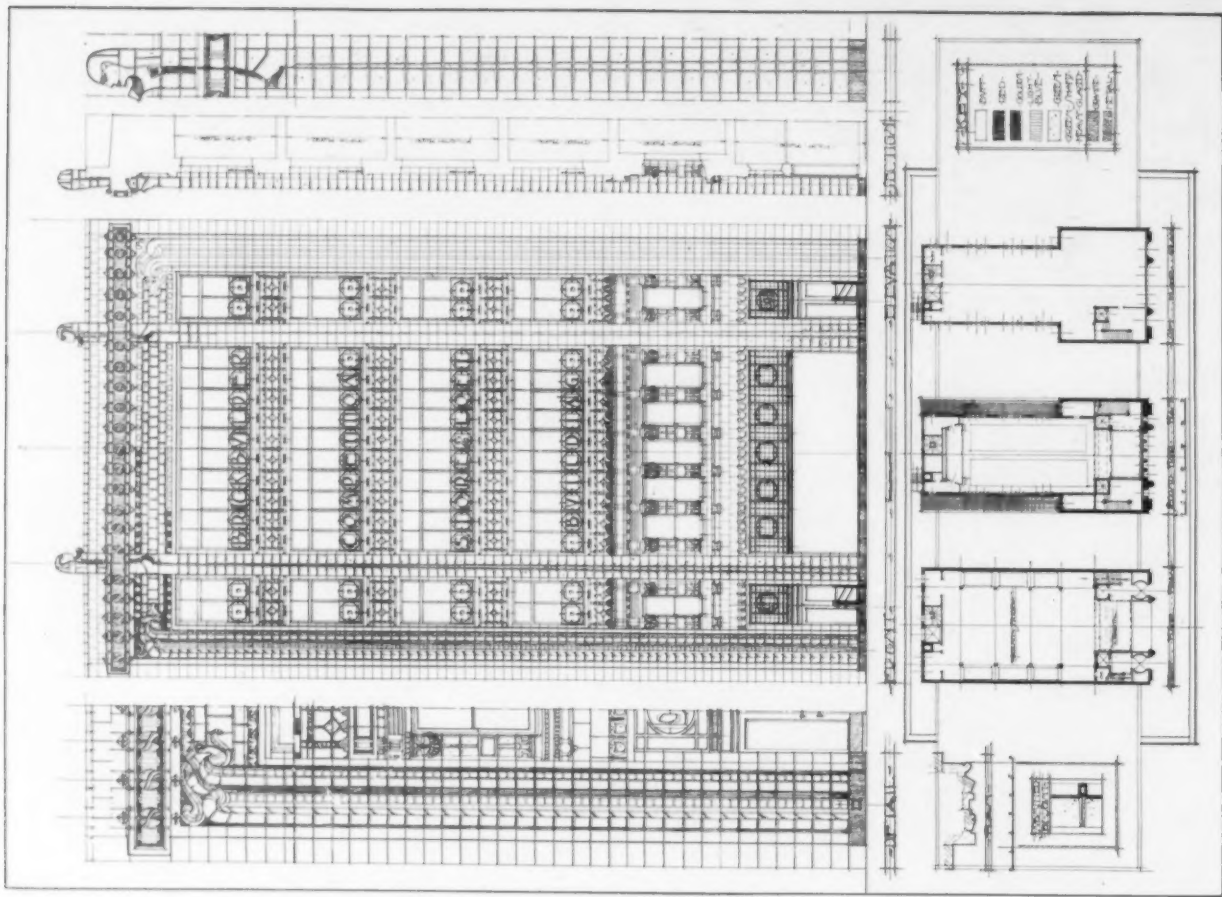






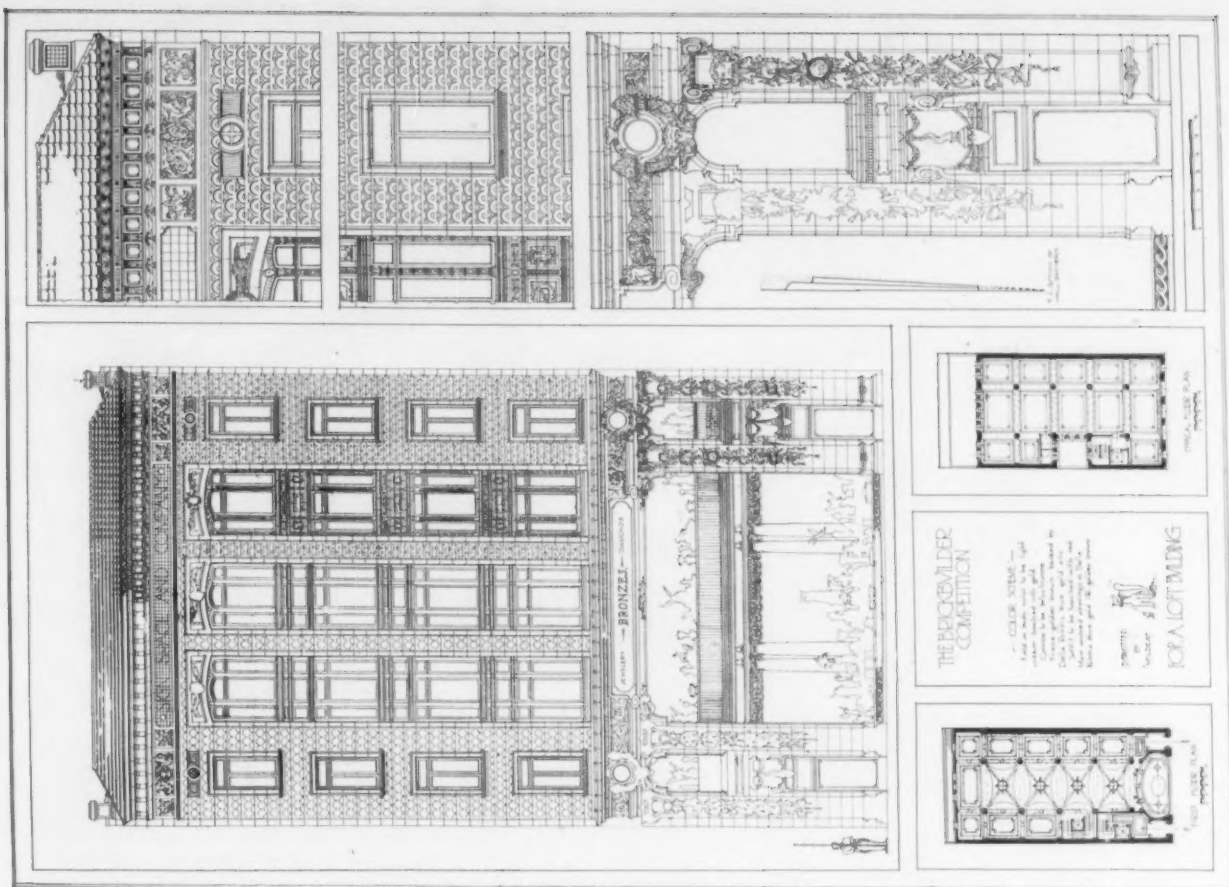


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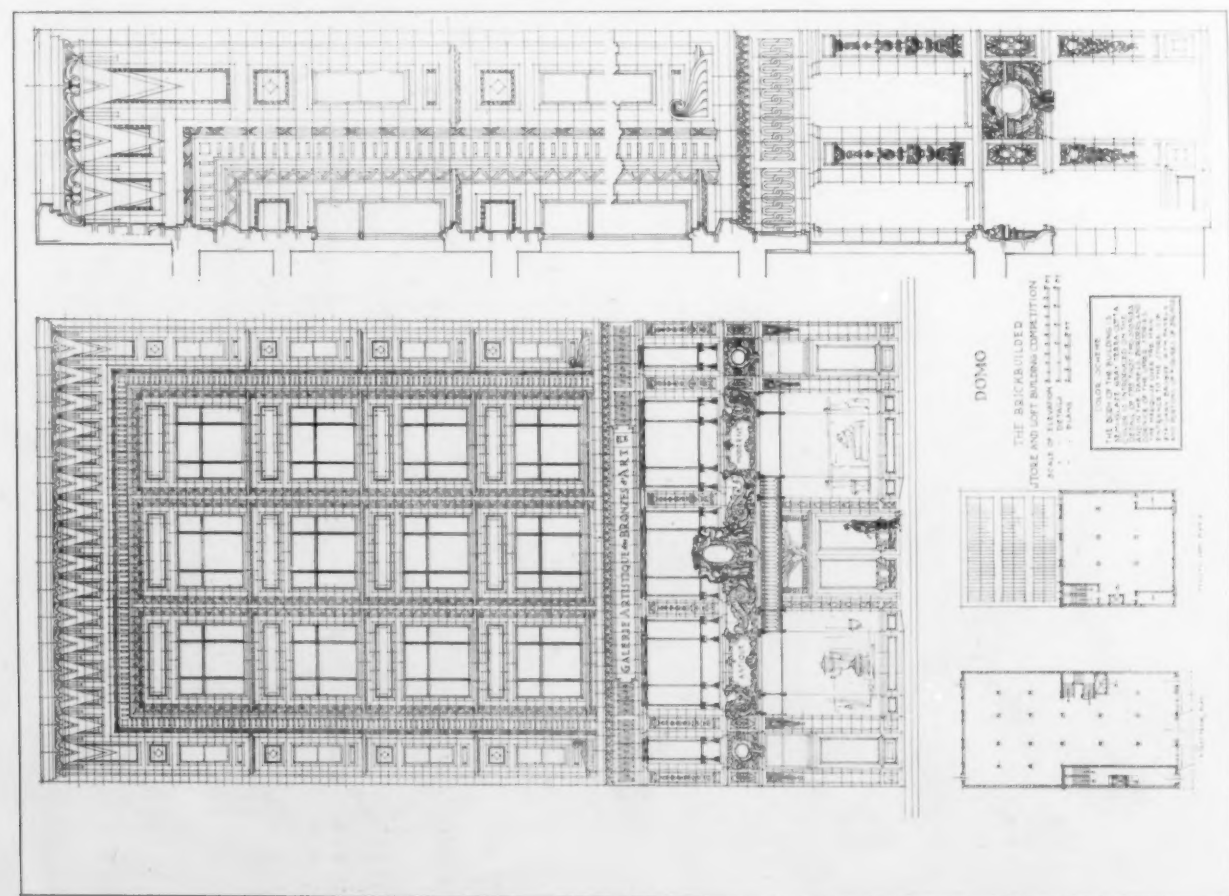


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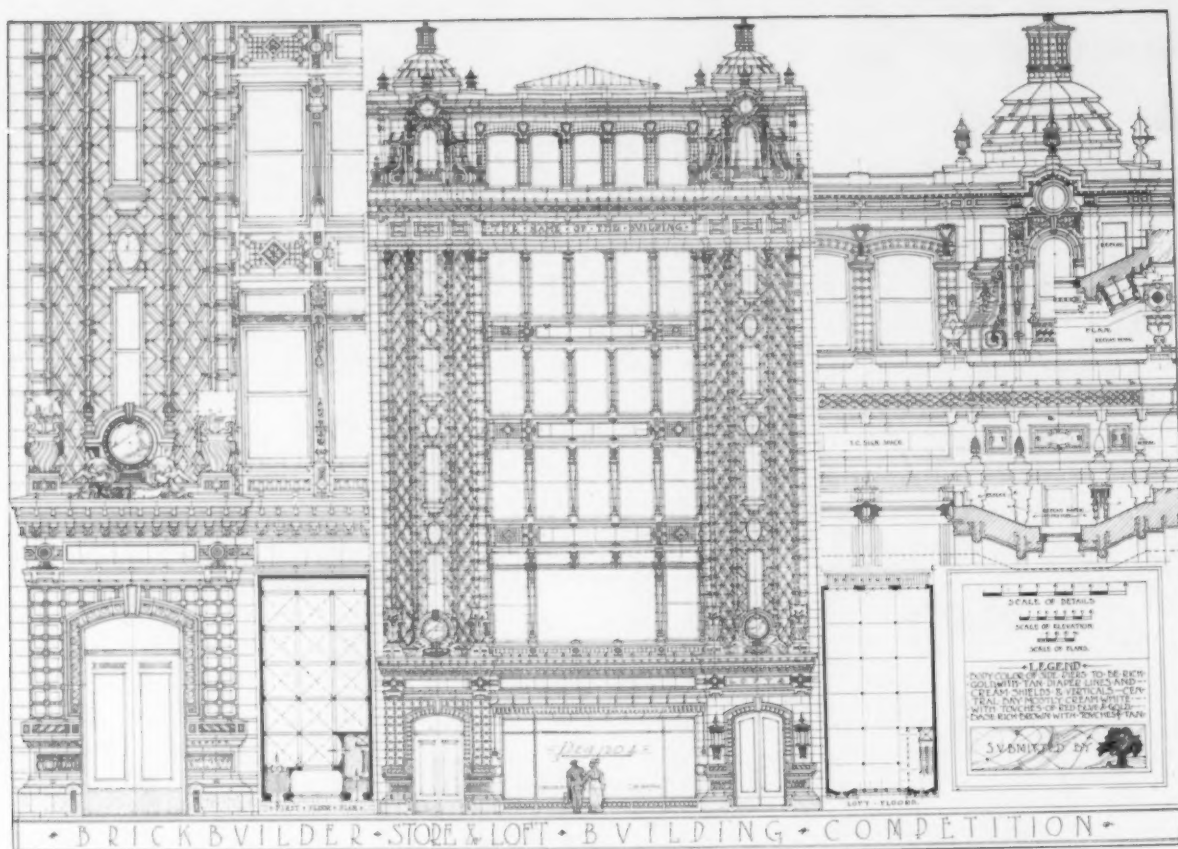




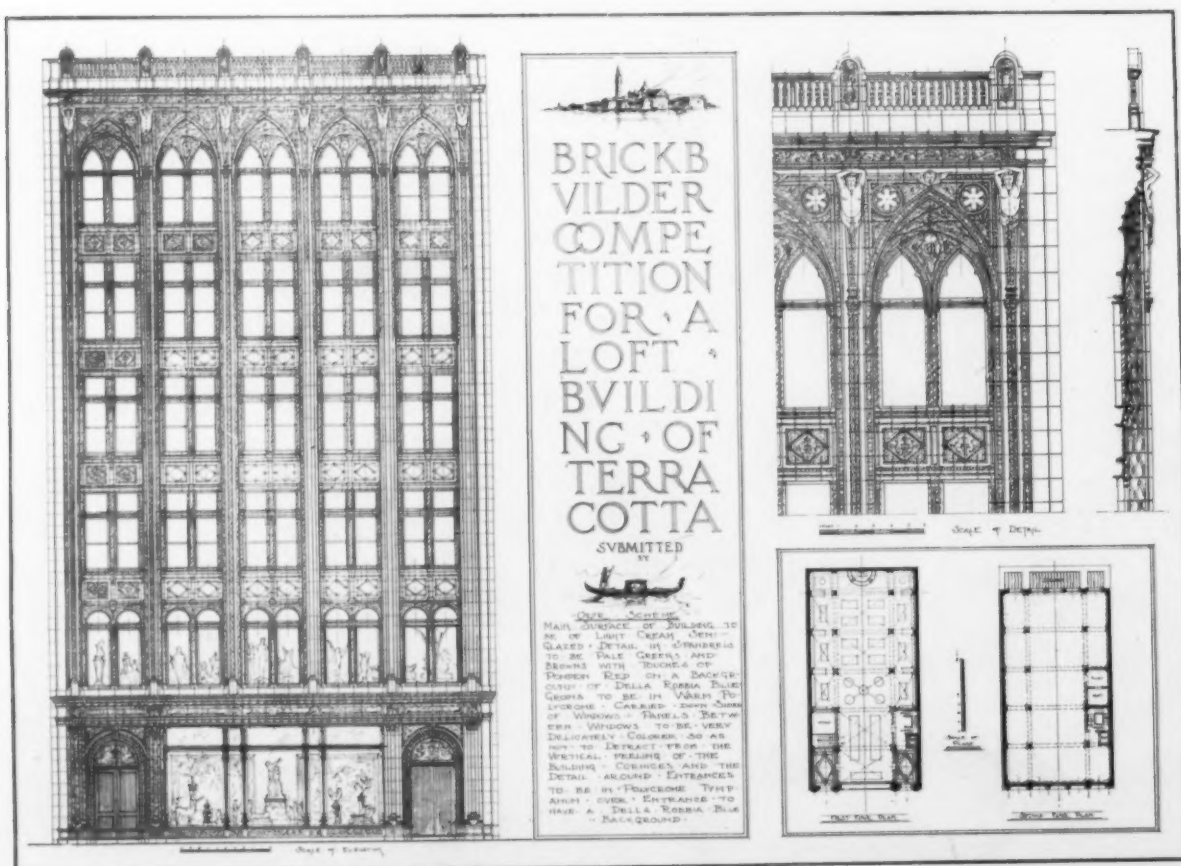
SUBMITTED BY FRANK GAERTNER AND B. K. HALL, NEW YORK CITY.



SUBMITTED BY A. R. NADEL, BOSTON, MASS.

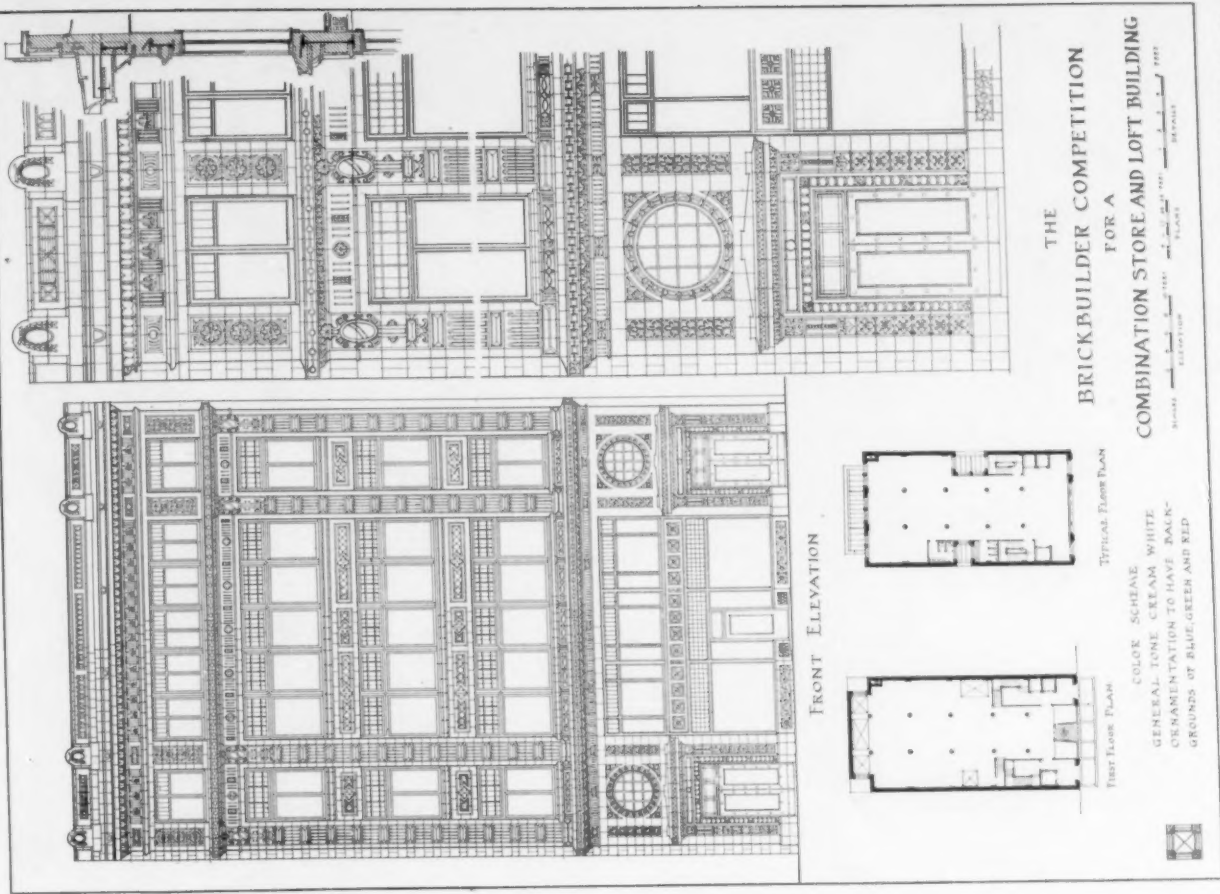


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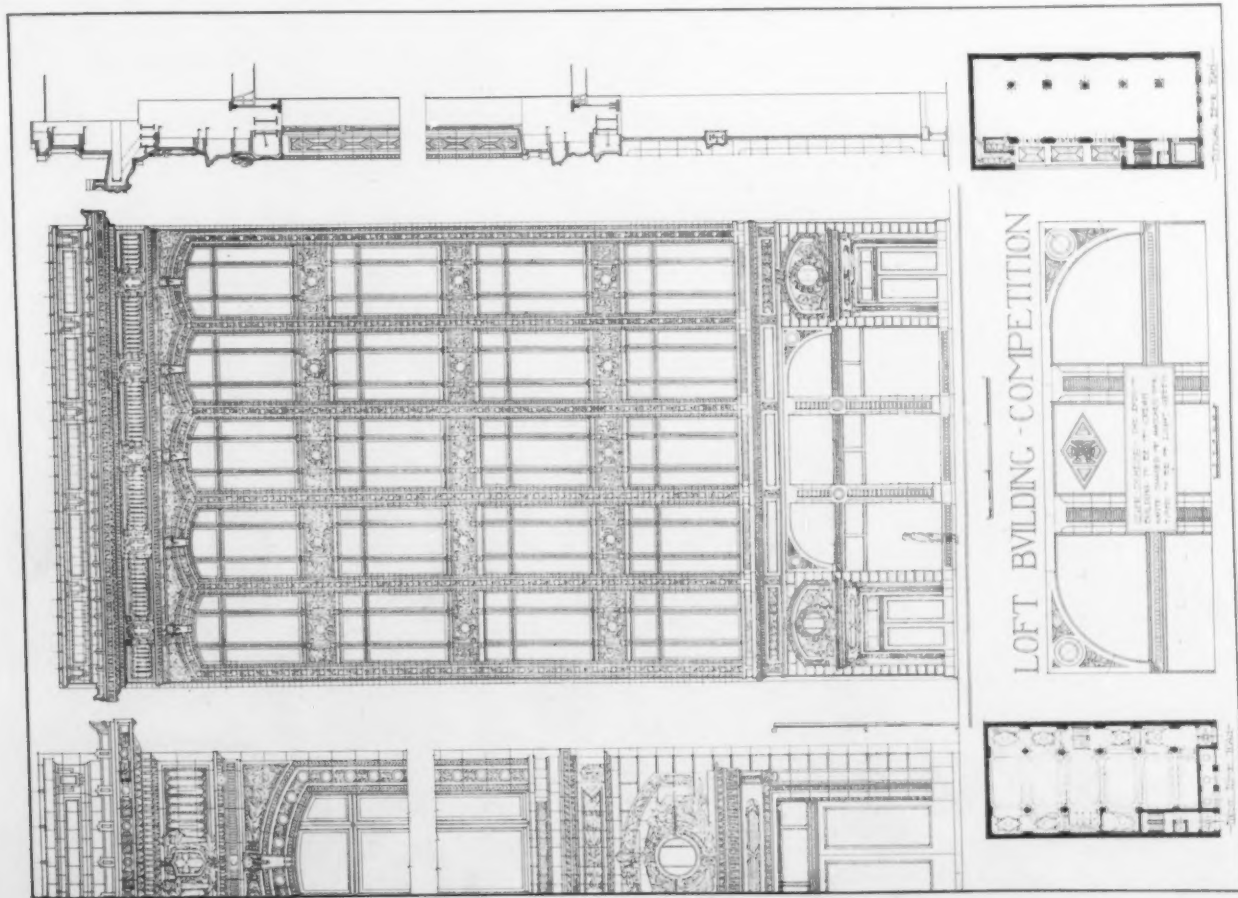


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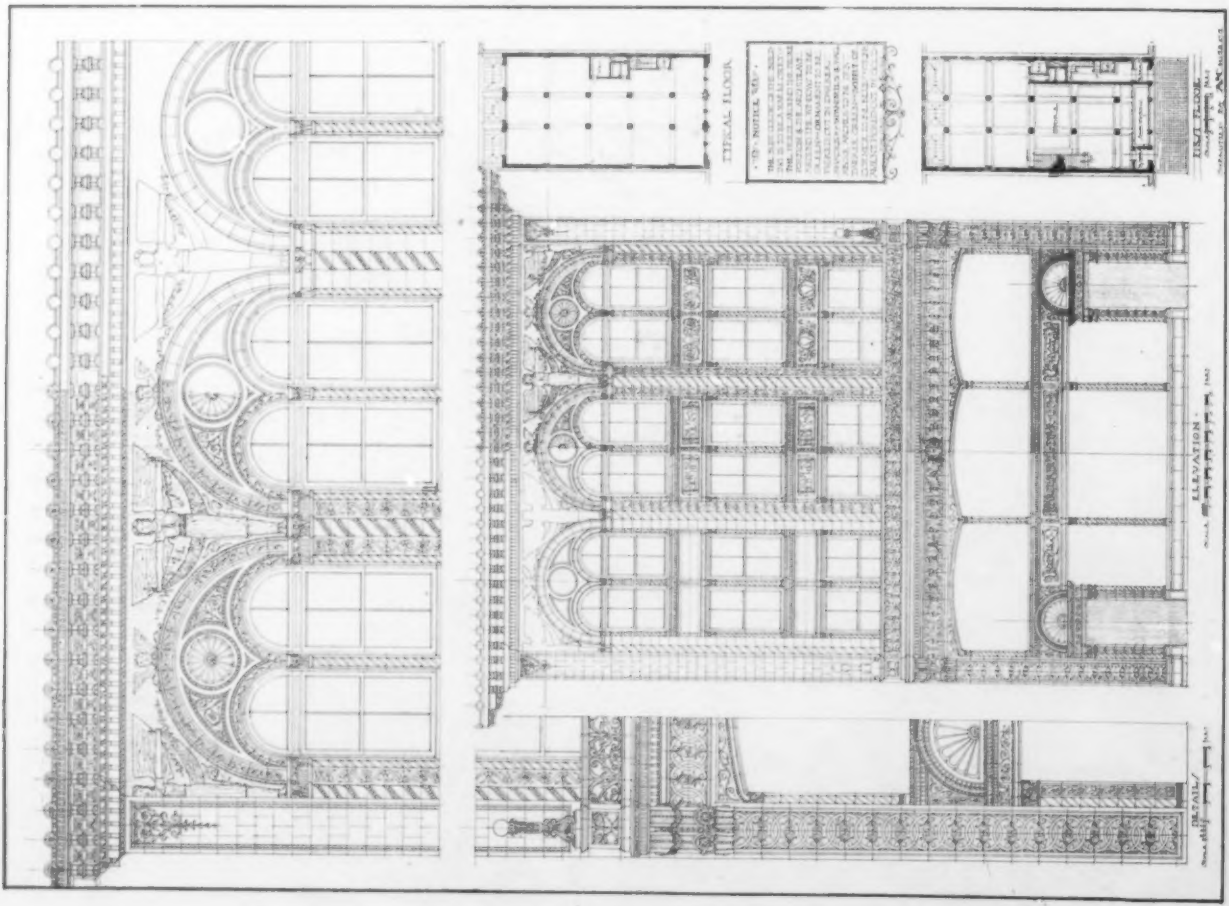


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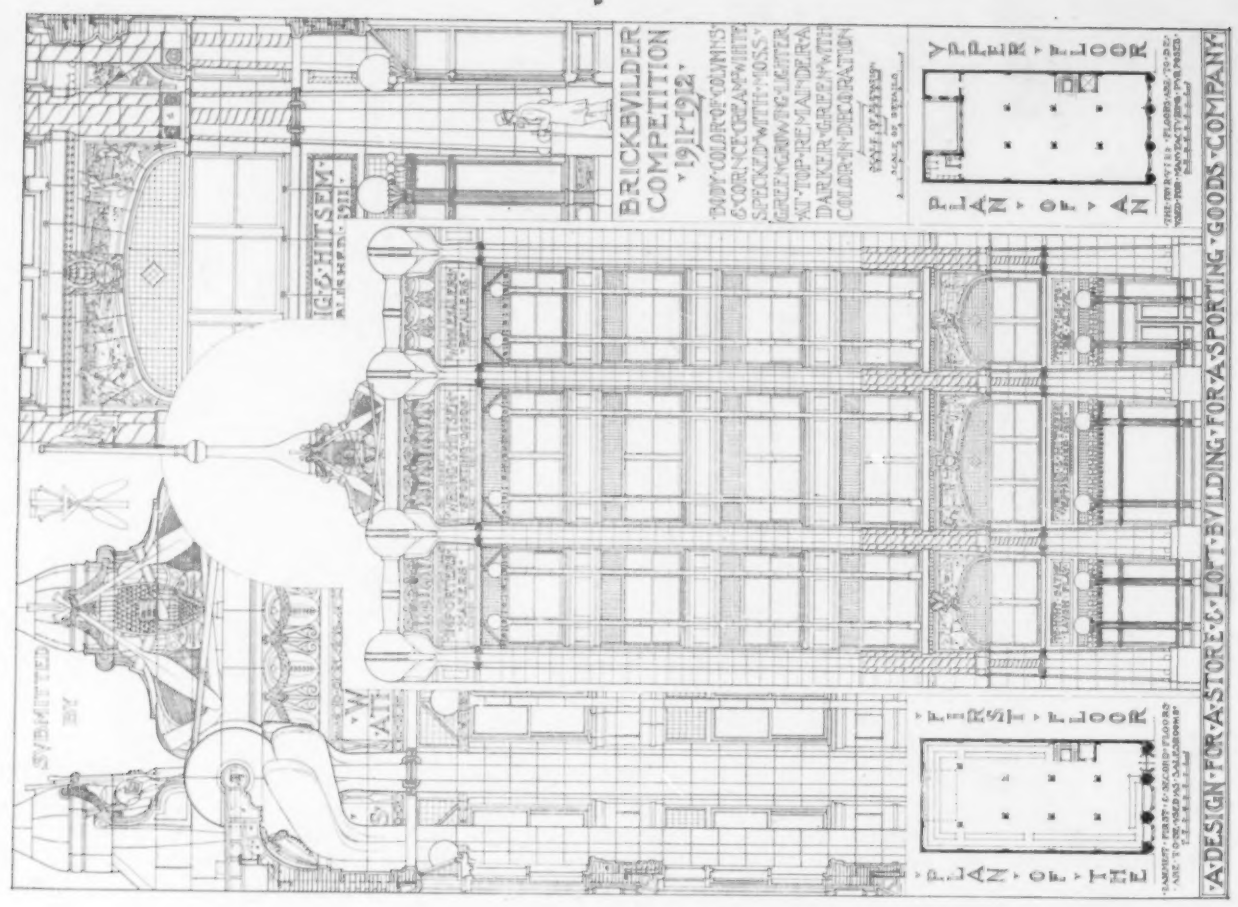


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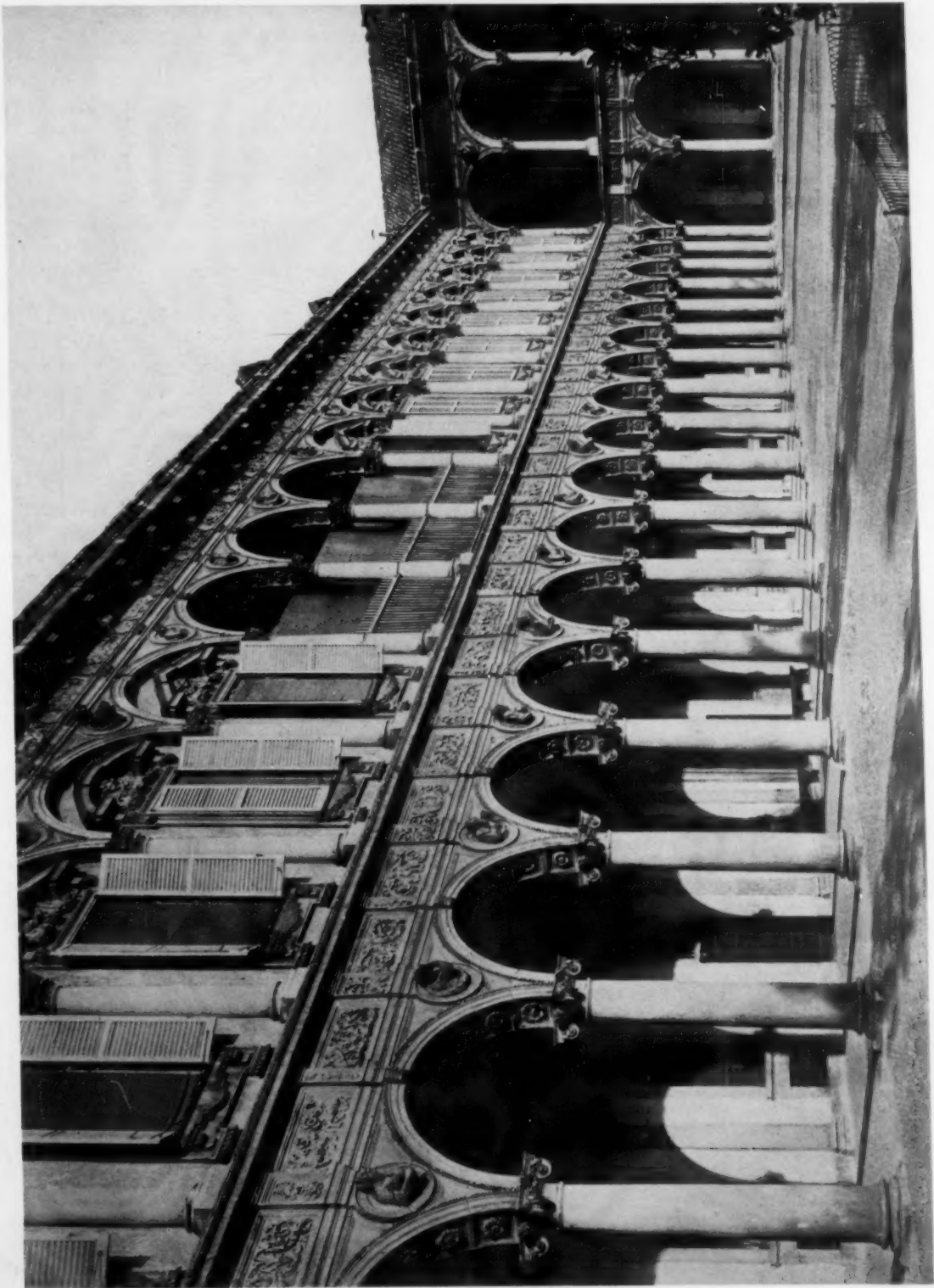




SUBMITTED BY A. CHANANIE, NEW YORK CITY.



SUBMITTED BY W. FRED DOLKE, JR., CAMBRIDGE, MASS.



✓ COURT OF MAGGIORE HOSPITAL, MILAN, ITALY.

# Architectural Terra Cotta; the Architect and the Manufacturer.

EDW. H. PUTNAM.

ARCHITECTURAL Terra Cotta, with its rapid recent development along decorative lines and its equal advance in structural efficiency, has undoubtedly come into its own. In some districts, particularly the larger cities of the East, its growth has been closely followed and it has been recognized and employed as a standard material for a good many years, its use increasing as its availability and versatility developed. In the middle West, too, it has figured prominently for some time. In the South and the far West, where rapidly increasing population and the consequent building activity create an unlimited market, the general use of terra cotta is a matter of comparatively recent years. In all districts there prevails an ignorance of the character and qualities of the material among the general public that is no less than colossal. Even some of those who have used terra cotta still have but little comprehension of its proper treatment.

This lack of knowledge has had the effect of stimulating the development among manufacturers along service or cooperative lines, and probably in no other branch of the building trade does the manufacturer do a greater share of construction planning.

Of course the architect who does the creative work of design and the exterior and interior terra cotta—for it is widely used now for interior work—must carry out his plans exactly, but it is the manufacturer's duty to lay out the actual details of construction under the architect's supervision and subject to his approval. In fact, the manufacturer's construction department acts as a part of the architect's regular office force in figuring out the details of construction, and this is quite as it should be. The chief difference is that the architect's part is not the *direction* of the work at the start, but the final approval. Frequently, of course, changes that might be made will occur to the architect, and he will suggest a method of construction that may be perfectly applicable to terra cotta. The construction is more or less elastic—it has to be so—and there are generally two ways of obtaining the desired result. It is the manufacturer's duty to explain why one way of doing a thing is more practical and safer than another, and if the change that the architect desires should be impractical, to show why it is and to suggest, if possible, a third way that may be acceptable to both. It might be interesting to take a hypothetical contract and follow it through.

**The Architect's Drawings.** First, then, the architect makes his plans, and on these plans and specifications all estimates are based. The plans need not be worked out with any great degree of detail, but to form a definite estimate they must indicate certain things clearly.

The drawings necessary for a definite bid are floor plans, elevations, sections showing projections, and sketch details.

The outside dimensions on all drawings should be exact. The elevations should be drawn to scale and show the character and the amount of the modeling. If repetition occurs frequently the cost of mould making will be greatly reduced. The jointing of plain surfaces should be indicated roughly,

but clearly enough to enable the estimator to determine pretty closely what size the ashlar will be. For rusticated ashlar, pieces not exceeding two and one-half feet in the greatest dimension, and for flush surface two feet, would be normal. When the character of the work demands larger ashlar an especial provision covering the extra time and care necessary should be incorporated in the specifications. Unless the whole building is terra cotta, the terra cotta members should be clearly marked and leave no room for doubt. The color should be noted, and, if more than one color is used, the polychromatic features should be indicated.

The sections should show exact projections so that the necessary bond and the probable construction may be considered. The bond figures largely in determining the weight.

The sketch details may be very rough; they are only needed to show the general character of the building, and, supplemented by the elevations they give the estimator an idea of the probable cost of the models and moulds.

**The Manufacturer's Drawings.** When the details of the contract have been arranged, the manufacturer's construction department sets to work on the construction drawings which are to be submitted for the architect's approval. From the manufacturer's approved drawings a complete schedule of anchors, hangers, rods, and bolts is made for the iron contractor's bid. If necessary, the terra cotta manufacturer will supply the iron, but it is generally cheaper and more convenient to have a regular foundry supply it. There is no fixed custom as to who shall prepare the full-size drawings; it is, of course, for the architect to say. If he elects to prepare them himself he should be careful to draw them to terra cotta shrinkage scale. This scale is about thirteen inches to the foot, differing under certain conditions by small fractions. The manufacturer will supply the necessary rules, which are divided as a standard rule into twenty-four "inches," but are really twenty-six, or twenty-five and a fraction, in length.

**Modeling.** The matter of making the plain moulds, when drawings have been approved and "full information" received, is naturally simple. The decision as to whether the architect should supply models of ornament or have the modeling department of the factory make them should be specified in the contract. As a rule it is much better to have all ornamental modeling done at the factory. The modeling departments of most companies are made up of men thoroughly trained in every architectural style and in many instances competent to execute figure work. In addition to their architectural knowledge they understand the difference between stone carving and terra cotta modeling and take advantage of the more "sweeping," graceful lines and finer detail permitted by terra cotta, and allow for the proper undercutting for shadows. Then the trained terra cotta men understand mould making, and make the models accordingly and they allow for shrinkage. In addition to a considerable saving in cost, having the manufacturer make the models is to the architect's advantage in other ways. If he finds it incon-



venient to visit the plant, photographs are prepared for his inspection, and in a finished state the models are subject to his revision. It is important that the architect should give the manufacturer beforehand an idea of the kind of modeling he wants unless his drawings are explicit; mention of the architectural style and period to be used as a precedent, possibly supplemented by rough sketches of particular details, would constitute sufficient information.

**Important Points the Specifications Should Include.** From approval of drawings and models the architect need not concern himself further with the factory end of the contract, if two very important points are included in his specifications; points which go a great way toward insuring rapid construction and a satisfactory result. These points are: (1) *All work to be fitted at the factory before shipment*; and (2) *All joints on lower story work to be ground by machinery whenever the nature of the work will permit.*

Fitting at the factory involves the very important point of *inspection*. The work is laid out in sections just as it will be erected in the building, and very carefully measured and inspected to see how it will "take up." The slight variation in the shrinkage which terra cotta undergoes in the kiln makes this necessary. If a piece is too long it will be cut to exact size, and any defective piece will be replaced immediately. Without such fitting at the factory the work at the building might be delayed by necessary cutting when the masons were ready to set the work, and the further possibility that a defective piece might not be discovered until it was needed. Fitting at the factory means that at the building the material can be set as fast as it can be handled; the inspection insures correct measurements, even joints, and that every piece will be on hand.

Such conditions seem elementary and fundamental, but, although the original estimate of some companies always includes "fitting," other companies do not feel called upon to undertake the work unless the specifications demand it.

The variable kiln shrinkage of terra cotta also makes "ground joints" most important. If the material is set just as it comes from the kiln the joints will not be exactly even, and on eye level and entrance work the appearance can scarcely fail to be marked. Ground joints, also, are always included, whether specified or not, by most manufacturers, but the point should invariably be included in the specifications to insure fair competition. On certain ornamental work it is impossible to grind the joints; moreover, it is unnecessary because the joints are obscured by the shadows and the curved lines of the ornament. On ashlar work, however, the blocks are made larger than necessary, measured, and ground to exact size on a revolving steel plate. The resulting joints will be close and even, and the alignment excellent. When the ashlar work is rusticated the shadows of the rustication hide the joints to some extent, but grinding will always improve the final effect.

**Shipment.** Shipment should never be demanded in less than eight weeks' time from receipt of "full information," and ten weeks is preferable. The nature of terra cotta demands careful manipulation in manufacture, and the initial drying, before the material goes to kiln, cannot be forced beyond a certain extent. The shrinkage, attendant upon evaporation of moisture, very closely approximates one inch in thirteen, and half of it should take place in a

temperature not many degrees above normal. It may take a week or more in the case of a large piece for the material to become "bone dry." At this point the color is applied, — a simple matter if there is but one, but requiring care and time if it is polychromatic work, and then the material is placed in the kiln. From twelve to fourteen days are required to "turn over" a kiln; one third of the time heating the kiln gradually to maximum temperature (about 2250° F.), one third of the time maintaining this temperature, and one third cooling gradually.

From the kiln the material is taken to the fitting shop where the measuring, fitting, and inspection take place. When the necessary grinding has been done, the material is ready for shipment.

**Handling.** Terra cotta, although strong, is brittle and the edges are easily chipped, so that it must be packed carefully for shipment. In loading the cars or boats the pieces must be protected from each other with hay, and the load braced to prevent dislodgment. The architect should see that whoever unloads exercises equal care, and pieces broken in transportation should not be accepted. The same care must attend the stacking of material at the building site. Again this seems elementary and fundamental, but truckmen frequently handle terra cotta as they handle common brick.

When the manufacturer takes particular pains, the builder will find that the material at hand is the part that he needs, neither more nor less, and where storage space is limited this obviates confusion and a great deal of unnecessary handling.

**Construction Supervision and Inspection.** If the building contractor has had but little experience with terra cotta construction, or if the construction is involved, a supervising terra cotta fitter should be on hand. Every up-to-date manufacturer employs trained men who go all over the country where important work is in progress, and frequently these men do a large part of the work under the direction of the building superintendent. They have a particular incentive to see that the material is set properly, and their knowledge expedites the actual work of construction.

In general, the architect should not be too ready to criticize terra cotta on the ground before it is set in the building. It is almost impossible to forecast accurately the final effect when set in the building of a few isolated pieces covered with the accumulated dust and mud of a week's exposure. Particularly this applies to color. Terra cotta varies slightly in tone; this is inevitable in a material that undergoes such an extreme of temperature. Seldom is the variation as great as that which occurs in the natural materials, and when set in the building the difference will not be noticeable in detail. Some variation is to be desired and many architects specify "variation in color" or use two different shades of one color to obtain it in a greater degree. It is variation that gives life and light to the façade, and prevents the monotonous, metallic effect of pressed metal.

Inspection at the building must not be limited to the terra cotta alone. The common brick used in backing up, and especially the mortar or concrete employed, needs the most careful scrutiny. Almost any common brick will be satisfactory if it is not unusually soft and absorbent, but in passing on mortar the following points should be borne in mind:

(1) If the lime in the mortar is lumpy and not properly slaked;

(2) If the cement itself is poor and contains too much plaster of paris;

(3) If the sand is not clean;

(4) If not enough cement is used;

(5) If plaster of paris is used directly in the mortar to quicken setting;

(6) If too much lime and too little cement is used; the mortar will be of such poor quality that it will admit water through the joints, and the consequent expansion, especially when aided by frost, may damage the material by "popping out," or may even shatter it.

The use of lime mortar is prohibited by the building laws of some cities except for chimney construction in frame buildings, while other cities permit its use in walls of all but fireproof buildings.

A safe formula for mortar is:

1 volume lime, *thoroughly slaked*

3 volumes of cement

8 volumes of sharp sand

When concrete filling and backing is used instead of brick and mortar, the following formula will be found satisfactory:

1 volume of cement

2 volumes of sand

5 volumes of stone

**Important Details of Construction.** There are several small but important points in the actual construction which are apt to be slighted unless they receive direct attention.

(1) All terra cotta, when there is imposed weight, should be filled with masonry at least as far out as the building line. Properly filled terra cotta will stand any necessary compression.

(2) In setting brick, masons form the habit of spreading a thin bed joint and running the point of the trowel along the center, forcing the mortar to front and back. This method should not be employed in terra cotta because frequently the pieces have frogs or rebates on bed and cross joints, and if there is not enough mortar along the center any imposed strain must be borne by the front and back of the piece alone.

(3) Cross joints should be solidly mortared. With cross joints, also, masons are apt to mortar the edges and neglect the center.

*All terra cotta joints should be treated as stone joints are; they should be amply filled, and when the piece is tamped down, the excess mortar that oozes out should be removed from the face.*

**Cleaning Down.** If a little forethought has been used during construction it will prove of material advantage in cleaning down the building. In the first place it will

lessen the labor by more than half if the joints are pointed up as the work proceeds; a common brush will remove excess mortar before it sets, but afterward cleaning is a matter of some difficulty.

The ordinary method of final cleaning with a steel brush or chisel and muriatic acid is *entirely wrong*. Steel is very apt to chip the material, particularly the sharp edges of the ornament and tooled surfaces, and rust stains caused by the use of metal will probably develop later. Acid should never be used, for while acid will not act directly upon the terra cotta it affects the mortar, making it inert as a binder for at least one-eighth inch from the surface. Consequently, the mortar is apt to cast. Again, acid dissolves materials in the mortar that appear on the surface and stain the face when the solution evaporates — and this may happen months later. If used with metal tools or in a galvanized iron or tin pail, acid will react chemically with the metal and become, instead of a cleaning fluid, a *yellow stain*. If the exigencies of the case demand acid, a three per cent solution is plenty strong enough to do the work and not strong enough to do any harm, if the warning about metal is followed. Such a solution consists of one part of commercial muriatic acid to ten parts of water — not a half and half mixture!

Bear in mind the fact that glazed material *never* requires acid.

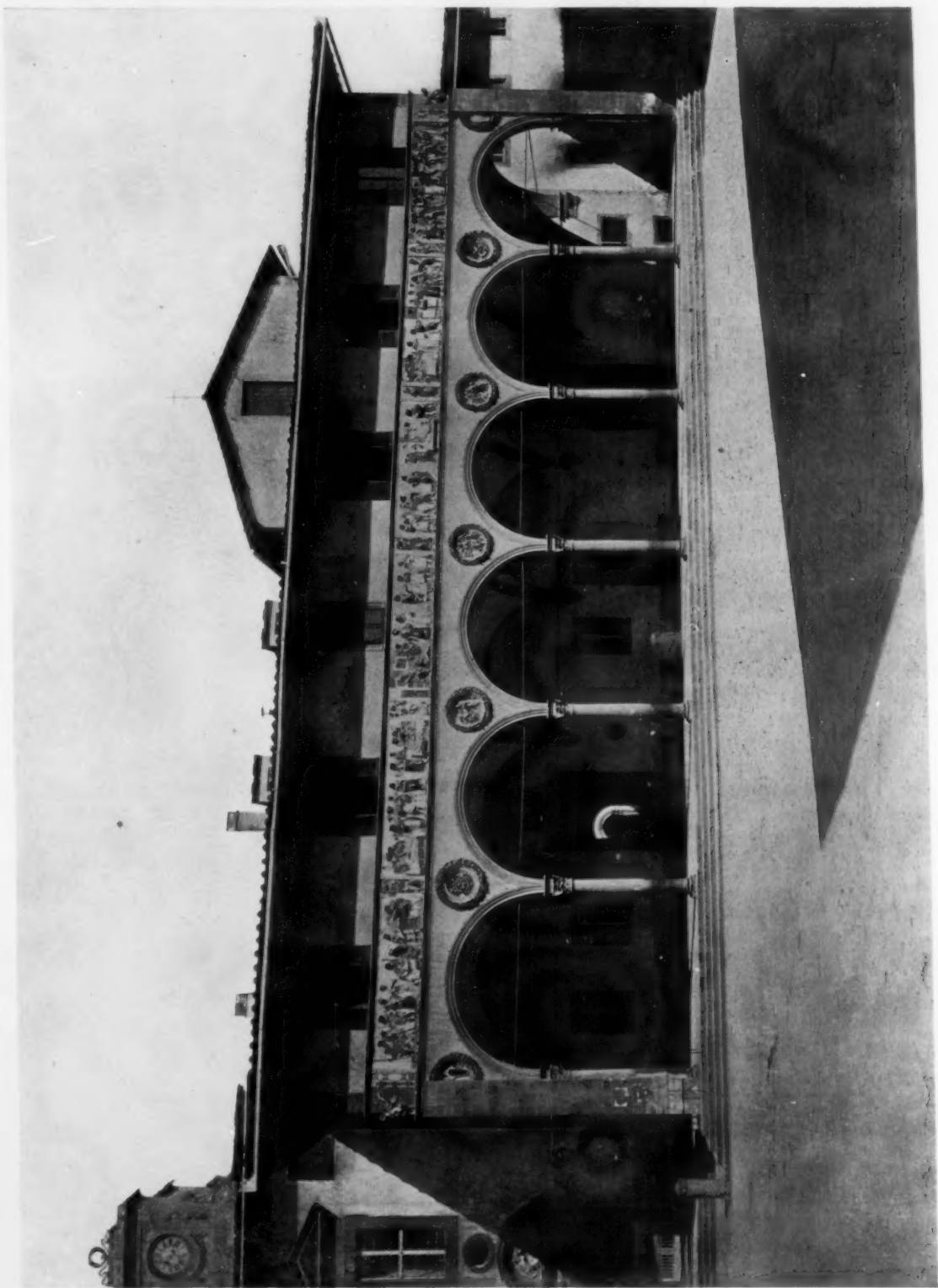
On both glazed and standard terra cotta the best thing to use is a good abrasive soap or washing powder. If the joints have not been pointed as the work proceeded the excess mortar should be soaked for a while and then removed with a sharpened hard wood stick. The most important part of cleaning is to use plenty of "elbow grease."

Finally, architectural terra cotta has been here over thirty years and is undoubtedly here to stay. Its increasing use and its rapid development, combined with its particular adaptability to modern metropolitan building conditions, give it a significance that cannot fail to be marked. Strict commercialism is no longer the rule in the American business building, and the appropriate use of terra cotta — *as terra cotta* and not as a substitute for some other material — solves the problem of erecting a building of dignity and architectural beauty at a reasonable instead of a prohibitive cost. The present and the potential importance of architectural terra cotta surely warrant study and consideration of the details of treatment and construction that distinguish it from other standard structural materials. Such consideration not only allows for the physical properties of the material, but leads the architect to employ it most expressively, and terra cotta has possibilities for architectural expression that are possessed by no other material.

DELLA



ROBBIA



MAIN FAÇADE OF DEL CEPPO HOSPITAL, PISTOIA, ITALY.



## Domingo Mora—A Sculptor in Clay.

AN APPRECIATION BY OSWALD SPEIR.

IN THE death of Domingo Mora at Mountain View, California, during the past year, the arts, and architecture in particular, have lost a notable figure. His personal modesty, and the channels through which he gave his work to the world, left him during life without that full measure of appreciation which his mastery of his art would have merited.

Born in Barcelona, Spain, in 1840, inheriting that gift, rare but not infrequent in Southern races, the "plastic" mind, he early, and with no faltering, gave evidence of his high calling.

Carefully educated in the Academy of Barcelona, well grounded in the philosophies of great minds, he entered upon his life work. A fellow student, companion, and traveler with the Spanish painter Fortuny, he was familiar with the works of the masters, retaining through all a spontaneity of vision and freshness so often lost in the careful plodding and the close study of merely physical accuracies. His was the reincarnation of the spirit of the Renaissance, giving full play the inspiration of imagination, possessing that mastery of form that makes impression easy and virile. He had that innocence of vision which delights in beauty for its own sake, and yet pointed its symbolic expression. His mind possessed an instinctive sense of form with a sort of stereoscopic grasp, corresponding to the sensitiveness of some eyes or minds to color, or certain ears to music. Much of his work showed a decided painter-like quality, giving a sense of color to many of his beautiful themes for decoration. In some of



DOMINGO MORA.

his small first notes or working sketches this quality is so marked that even in the fluidity of the rendering, and its balancing notes of punctuation, the technique suggests very much the quality of painting.

No matter if it were necessary afterward to make study direct from nature of any of the component parts in a given composition, he always had given full play first to his imagination, in the form of a sketch conveying the spirit of the theme; the moment of action, if it were motion he wished to express. It was ever paramount in his ideas of the execution of any subject that inspiration came first. In order to give full expression to this

impression, a thorough knowledge and careful academic training was absolutely necessary. It shows in the slightest of his sketches, his early training in the alphabet of the significant poses of the human figure, in the foundation of architectural form, and in the impression of nature. In after years, in some of his most important work, he found it necessary to use a model only for the proving of his lines.

After completing his studies in the old world Mr. Mora went to Buenos Ayres when about twenty-two years of age; while there, executing considerable work, some of it of importance and of a public nature. One of his well-known statues was called the "Victim of the Civil War," for which he was awarded a medal at the Exposition of Chili. This statue is now in the National Gallery of Monte Video.

After a sojourn in Europe he came to New York in 1880 and began an active career, prolific in production and of high order of artistic merit.

His coming to New York was coincident with that movement upon the part of our educated architects to raise the standard of sculpture as applied to architecture, as well as to recognize more freely the sculptor in architecture. So we find Mora early in touch with such men as Post, McKim, Cady, Richardson, Renwick, White, Brigham, Peabody, Clough, and John Stewardson. Most of his work with these men was through the medium of architectural terra cotta, which at about the time of Mora's coming to America

was beginning to be recognized as a material peculiarly adapted to the artistic expression of an architect, sculptor, and modeler, through the giving of permanent form to plastic and responsive clay.

The material in these first days was used almost entirely for decorative and superficial purposes, its



METROPOLITAN OPERA HOUSE, NEW YORK.



MASONIC TEMPLE, TRENTON.

constructive value developing more slowly as manufacturers became more familiar with the science and technique of its handling, and architects and builders with its wonderful possibilities. Mora's familiarity with its use in Europe, and personal experience with its production and use in South America, quite naturally led to his identification with the pioneers of the industry in this country, and close relations with the most important producer of the material in the United States.

The intelligence of these manufacturers was already impressed with the need of modelers and sculptors above the class of the workers in the cast-iron monstrosities with which our cities and towns were then disfigured. Stone, it carries us through the designing of the great and they enthusiastically welcomed the co-operation of a man of Domingo Mora's ability. His knowledge of the technical limitations as well as the broad possibilities of the material was of invaluable assistance in the surmounting of problems in the handling of caryatid, tympanum group, colossal statue and quadriga; and his fundamentally serious, self-respecting art had its influence on the side of moderation and dignity.

Perhaps his earliest work in New York was the four charming bas-reliefs in the façade of the Metropolitan Opera House, of which J. C. Cady was the architect; small pictures are these comparatively, in a great mass of brick wall, but how delightfully has Mora decorated the spaces allotted to him. The "dancing boys," the very incarnation of the spirit of the dance, each figure a perfect study, and the composition well balanced, impress one with their joyous shouts. The corresponding group of "singing boys," in their earnest enthusiasm, actually delight our senses with the imagination of their pure harmony, conductor and orchestra joining in the tense action. The narrow panels on either hand



METROPOLITAN OPERA HOUSE, NEW YORK.



PRINTING HOUSE, NEW YORK.

of the central groups, again "Musie" and "Dancing," more serious in conception, are truly beautiful in action and pose; particularly appealing is the figure of the young woman singer.

And then follows a mass of work of varying importance: some heads and the seals of the states, in the New York Produce Exchange, by Geo. B. Post; the tympanum panels on the Tremont Temple in Boston by Blackall and Newton; the pediment in the Criminal Courts Building, New York City; a most interesting frieze in the Masonic Temple at Trenton, depicting the development of the arts and sciences. Beginning with the hewers and builders in Greek temples, the serious debates of the early philosophers, the days of the troubadour and romantic poetry, Columbus and his plan of discovery, Fulton and his "teapot," and the, at that time (1885), still wonderful telephone. The whole frieze is worthy, but space allows the illustration of only a section, "the age of romance." How thoroughly in romantic sympathy is the maiden as she listens to the impassioned interpretations of the troubadour, followed pensively by the poet. His figures are not petrified nor are they filled with insistent stress. We are impressed with the imagination of the man and his power of expression, the excellent composition and balance, and his satisfying technique in the production of textures.

Out of the mass of architectural sculpture comes a wonderful caryatid made for Wilson Eyre, Jr., for a printing house on Ninth street, New York. How perfect the pose, how easy the suggestion of power; simple and effective is the drapery, and very lovely is the modeling of it all.

And there are many, very many of these beautiful caryatides. Two houses in Lenox,



BUILDING FOR THE SOCIETY FOR SAVINGS, HARTFORD.

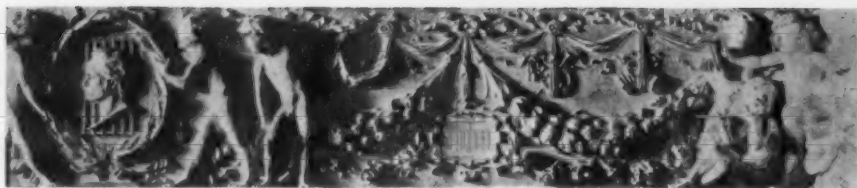
Mass., by Peabody & Stearns, bear evidence of his handiwork. The Shiebler House in Brooklyn, by Frank Freeman, discovers them supporting the tower, and in all we find reason, architectural feeling, and art.

A little Bank Building at Tarrytown, New York, by Alfred H. Manning, has in the architrave of the entrance doors some character sketches of typical heads that are worth a pilgrimage, so delightful are they in their portrayals and freedom of treatment.

The frieze to the entablature in the building for the Society for Savings at Hartford, Conn., by Peabody & Stearns, is, to my mind, one of Mora's best architectural creations, for here he is responsible for the details of foliation as well as the figures. The whole composition is treated very freely, but with perfect balance and distribution of masses. A fine architectural sense of proportion gives scale with the building, and here we find his color quality strongly defined. Each figure is a study in well balanced pose, and, though there are many of them, we find no suggestion of monotony.

Another interesting frieze, purely decorative in character, is that in the music room in the home of J. Pierpont Morgan, Esq., in New York. The grouping of the boys forming the punctuation for the festoons is particularly happy.

And so we could wander on through the cities, finding here and there beautiful works of art by Mora, adding charm to the architecture which they embellish and giving happiness to the many. But we cannot leave this phase of his life and work without mentioning one of his happiest and most clever figure decorations of architectural ornament: the Harrison Building in Philadelphia, by Cope & Stewardson. Here we find John Stewardson in his element in a mass of elaborate detail, and Domingo Mora in



FRIEZE, MUSIC ROOM, MORGAN RESIDENCE.

perfect sympathy with him in his application of these wonderful little human notes. Could anything be more charming for its pur-

pose than the illustrated initial or monogram panel, the groups of joyous Cupids about the architraves to openings, or the many central figure motifs to the panels in the spandrels? How very interestingly these little nude figures convey suggestions of the many occupations and trades in the great building, and not a sign of the grotesque or flippant in their composition.

One of his most serious commissions was the sixteen life-size figures in the corridors of the Court House at Boston, Mass., by George Clough. Forming the fascia of great corbels, modeled almost in the round, stand this array of separated and correlated statues, representing the development of the races through the ages. Religion, Philosophy, The Arts, Literature, War, all bear mute testimony towards the establishment of Law and Justice. The finely trained mind here bears witness to the years of study and serious thought of the development of the human race mentally and physically, for we find them convincing as types and historically correct in costume and drapery. The bigness and strength of the composition is in perfect harmony with the architecture and design, and in most intelligent appreciation of the stone in which they are carved. The textures of the costumes are remarkable in technique and thoroughly



COURT HOUSE, BOSTON.



HARRISON BUILDING, PHILADELPHIA.



COURT HOUSE, BOSTON.

satisfying in quality.

Among Mora's productions in the late nineties were: The bas-reliefs in the Reredos, Emmanuel Church, Boston; some of the Romanesque panels in the Portico frieze of Trinity Church, Boston, by H. H. Richardson; the Moral and Religious Allegories in the Rogers Memorial Church at Fairhaven, Mass., of which I believe Sturgis & Brigham were the architects; the Tympanum in the en-



HARRISON BUILDING, PHILADELPHIA.





ORPHEUM THEATER,  
LOS ANGELES.



trance to Grace Church, New York, by James Renwick; the book-marks on the façade of the Boston Public Library, by McKim, Mead & White; and so on through an extended list of interesting work with interesting men.

Yet during this long period of prolific work, the subjects for

which were more or less suggested by their environment, he found time for many statues, groups, and bas-reliefs, purely the product of his imagination and desire.

Naturally of a thoughtful and serious mind, we find him at his best in a statue of Aristotle, for many years on exhibition in the Department of Modern Sculpture of the Museum of Fine Arts in Boston: a seated figure in perfect repose, with the head thrown sufficiently forward to indicate complete and absorbed mental control. The robes are full and easy in line, and we feel under this mass the well-studied anatomy. The statue has atmosphere, creating in a masterly way the impression of the philosopher. A contrast is his statue of "Hymen," shown on this page, no less interesting in well-balanced composition and a beautiful and restrained study in anatomy.

And his play was delightful; a nature strong in affection found much joy in home and family and children and friends, and these characteristics found expression in most fascinating sketches, and sometimes finished statues and busts; imaginative portraits of the characters from Don Quixote, perhaps for better illustration of the story for his boys, of whom there were two, both artists. Such entrancing groups of babies and children filled the nooks of his studio. One wise-eyed cherub stares at you from a bunch of pillows in his grandfather's great chair in which he is seated, and immediately justifies his title "King of the Hearth." Another plump little rascal plays a violin with the intensity of a Kubelik; and there we find a whole mass of joyous little humans, tossed in laughing and rollicking abandon on the crest of a curling billow. And you turn to the man and find back of his intense black eyes the love of humanity and much deep sympathy.

About the time of San Francisco's great fire, Mora

came to the Pacific Coast to visit one of his sons who had settled in the foothills of the Coast Range at Mountain View, California, after some years of life and study among the Indians of Arizona and New Mexico, and the fast disappearing "types" of the great West. The whole atmosphere of this big country appealed to Mora's great soul; there was need of his art here too, and he required little urging, although in the autumn of life's seasons, to again take up his modeling tools; his studio, a picturesque barn on a ranch in the towering hills, with the live-oaks casting their shadows into his doorway.

A frieze in the Newhall Building, San Francisco, by Lewis P. Hobart, was his first architectural work here,



ORPHEUM THEATER,  
LOS ANGELES.



HYMEN.



NEWHALL BUILDING, SAN FRANCISCO.



CHILDREN'S HOSPITAL,  
SAN FRANCISCO.

and he accomplished it with the same appreciation of architectural requirement, the same freedom and charm of treatment, as in the old days with John Stewardson. Some work of rare spirit was done for Bliss & Faville, but particularly in The Children's Hospital do we find him in thorough sympathy with his subjects. The wonderful mother spirit of the central figure, the pathetic weakness of the babes, the sympathetic interest of the outer figures are convincing in subtilty of expression, reposeful in composition, and so excellent in technique. While we love the fifteenth-century charm of the della Robbias, we find more satisfaction in this awakened modern spirit, and the cupid border with its play of expression is altogether lovely.

What versatility we find in the man! In the next breath he is portraying the spirit of modern vaudeville for G. Albert Lansburgh for the façade of the Orpheum Theater in Los Angeles. The "Harlequin," "Dancer," "Singer," and "Jester" are handled with masterful portraying of characters; a clever solution of the technical problem, and gratifying in pose, modeling, and textures.

There are many other works here worthy of comment, but I find his masterpiece in the colossal group over the entrance to the building for the Los Angeles Athletic Club, of which Parkinson & Bergstrom are the architects. The group, standing free, is well proportioned to



THE BIRTH OF HUMANITY.

the entrance and surrounding architecture, and quite naturally develops from its pedestal. The center figure, a perfectly proportioned young athlete, stands squarely upon his feet, convincing and satisfying in the strength of his physical development. The flanking figures, one with the dumb-bell and its companion with medicine ball,



ATHLETIC CLUB, LOS ANGELES.



ATHLETIC CLUB,  
LOS ANGELES.



CHILDREN'S HOSPITAL, SAN FRANCISCO.



ATHLETIC CLUB,  
LOS ANGELES.

carry the line of proportion and balance. And still there crowds into my mind more of his work of interest and strength, but it will speak through the years in its power of conception and refinement of design. And

my tribute to his memory is this: that I might bring out strongly those two qualities in the man which showed not only in his work but also in his life—power and beauty.



## Architectural Terra Cotta in Connection with Stone.

C. U. THRALL.

IN the early days of modern architectural terra cotta, over thirty years ago, its use was confined to strictly decorative purposes in connection with brick. This was so chiefly because it was limited in color to the original "terra cotta" shades, none of which would harmonize with the building stone then in use. To-day, when the material can be made in almost any color, and in various textures, its application in connection with stone is very common. In fact it is frequently used to the exclusion of stone with excellent results on buildings that are monumental as well as commercial in character.

The chief reason, and the one which gave the initial impulse to the use of terra cotta in combination with stone, was undoubtedly economy, and though in many instances its use was frankly imitative, in the majority of cases it was treated as an individual material and full advantage taken of its distinctive possibilities for color treatment and flexible modeling.

Of the many factors that work for the economy of architectural terra cotta construction, the methods of manufacture form the chief item. In view of the fact that practically all of the labor is done by hand — even at the clay bank the clay must be taken out by hand spading — it is rather remarkable that this should be so. Other factors are rapidity of construction, light weight, and reduced insurance rates.

A single piece of terra cotta would cost about as much as a similar piece of stone, but the fact that a plaster mould can be made of one piece and a great many pieces pressed from the mould reduces the cost very materially. In stone, of course, each piece would have to be separately cut and

carved. In the case of intricate ornament the economy of terra cotta is particularly great.

In construction it takes about one-third the time to set terra cotta that it takes to set stone. This is due to the comparatively light weight of the material and the simple method of attaching it to the frame of the building.

The light weight further effects a general reduction of freight charges, and permits a form of frame construction considerably lighter than may be employed with safety for other materials.

Terra cotta is absolutely fireproof and is unimpaired in even a general conflagration. Sheer walls of terra cotta make the best possible fire protection, and by lessening the risk frequently reduce the insurance charges. This is especially true when it is used extensively for interior work.

It will be noticed that the factors that account for the economy of terra cotta might without exception be urged as reasons for its use from a purely practical standpoint, without the slightest consideration of cost. Consequently, it is small wonder that the great majority of architects almost always figure on it for their metropolitan work, independently or in connection with stone. Even in the instances where the material is used in an imitative way, the stigma that an imitation usually implies is absent, because terra cotta is an efficient and a thoroughly high-grade structural material.

Broadly speaking, there are three different ways in which architectural terra cotta is used in connection with stone: First, harmonizing with the stone in color and texture; second, contrasting with the stone in color; third, harmon-



RECTOR'S HOTEL, NEW YORK.  
D. H. Burnham & Co., Architects.

From the third story to roof the decorative members are gray terra cotta, matching in color and texture the limestone base.



izing with the stone in color but modeled in the graceful lines that are characteristic of a material that is modeled by hand. In the third class all the plain members of the building are generally of stone and all the ornamental members of terra cotta.

Rector's Hotel, in New York, is a good example of terra cotta harmonizing with stone. All the gray material above the third story is of terra cotta, matching the limestone of the three lower stories in texture, color, and even in tone variation. The introduction of face brick at the same height that the terra cotta begins makes a definite demarcation line between the architectural motive of the base and the shaft of the building. It is always wise to do this when plain terra cotta free from ornament is used, because stone weathers quickly and becomes



darker in tone, while terra cotta is little affected by the weather. Matching the solid limestone base with a solid terra cotta shaft would eventually result in a distinct color contrast without any consistent architectural reason. In the Savannah Bank & Trust Company's building, the prominence given the engaged columns and the pilasters separates the marble base distinctly from the terra cotta shaft so the architectural effect will not be impaired by the future weathering. In this case white matt terra cotta is used for the entire building from the first-story column capitals to the roof.

The three-story base of the Woolworth Building, now being erected in New York (Cass Gilbert, architect), is of white marble, and the fifty-two imposed stories of the shaft and tower



PUBLIC LIBRARY, SPRINGFIELD, MASS.

Edward L. Tilton, Architect.

The modeled members are white matt architectural terra cotta, matching in color and texture the marble of the plain surfaces.

On this building soft faience colors are used for the background of upper-story ornament, rather to accentuate the ornament by intensifying the natural shadows than to lend their individual color value.

The second method, that of employing terra cotta in contrast to stone, is roughly divided into two classes, each of them open to many variations: First, the use of one color terra cotta; second, the use of polychromatic terra cotta. One of the uses of the first class is the employment of white terra cotta for the "trim" of a building largely erected of gray stone, and a notable instance of this method is found in the College of the City of New York, built some years ago. The lines of the college buildings

should be a cream or a white matt that matches the marble. Architects are allowing themselves wider latitude in the use of color every year, and the demand for faience in constructive decoration is steadily increasing.

In erecting the Madison Square Presbyterian Church, New York, McKim, Mead & White placed capitals of polychromatic terra cotta on the green marble shafts of the main façade columns. Lord & Hewlett, in the base of the Masonic Temple, at Brooklyn, alternated horizontal courses of polychromatic terra cotta with white marble, and there are many other instances which might be cited.

The third method mentioned above, that of using modeled terra cotta harmonizing in color with plain stone or marble surfaces, besides being the most recent use of the two materials in combination, is perhaps the most interesting. Probably the impetus given to this method was due to the great economy involved, but the material was used with regard to its individual properties, or rather the application of one of its most distinctive



STATE EDUCATION BUILDING, ALBANY, N. Y.

Palmer & Hornbostel, Architects.

All the ornamental work, column capitals, frieze, panels, cornice, loggia ceiling, etc., are cream matt terra cotta, matching the marble of the columns and plain surfaces in color and texture.

are sharply defined in dull white terra cotta against the dark gray walls. At the time these buildings were erected the matt glaze which is now in general use had not been developed, and the surface of a lustrous white was cut by sand blasting to give the desired soft effect. In this particular instance the sand blasting had the added advantage of making the surface porous and more susceptible to the effects of weather, so that it would weather as the stone did and prevent too sharp a contrast in years to come.

The bright faience colors with a background of soft gray may be used to excellent advantage with gray stone, particularly in an archaic Byzantine design, or any of the crude antique forms. With the pure, formal classic, or one of its adaptations, the background for the colors

properties — that of flexible modeling. In this method the question of unequal weathering does not have to be considered; the natural shadows of the modeling make the tone of the terra cotta members several shades darker than a plain surface would be, and in addition the projections and interstices of modeled design hold dust and give the effect of permanent weathering. Besides the difference in initial cost, and the tremendous saving effected by terra cotta modeling and reproduction of design by moulding, the construction will be much simpler and less expensive. Large capitals, friezes, brackets, and heavy overhanging cornices — ordinarily of stone with necessary bonding — will be of terra cotta, light and with little bond, attached to the frame by light iron anchors.



DETAIL, STATE EDUCATION BUILDING, ALBANY.

Terra cotta modeling possesses a distinctive character of its own that can be obtained in no other material. Modeled easily by hand, every line can be made to express character and there is every possibility to develop an architectural motive to the most minute detail.

A good example of this last use of the material is found in the Public Library, of Springfield, Mass. The main entrance details, the details of frieze and cornice,—in fact, practically every part of the building in the least ornamental,—is executed in architectural terra cotta.

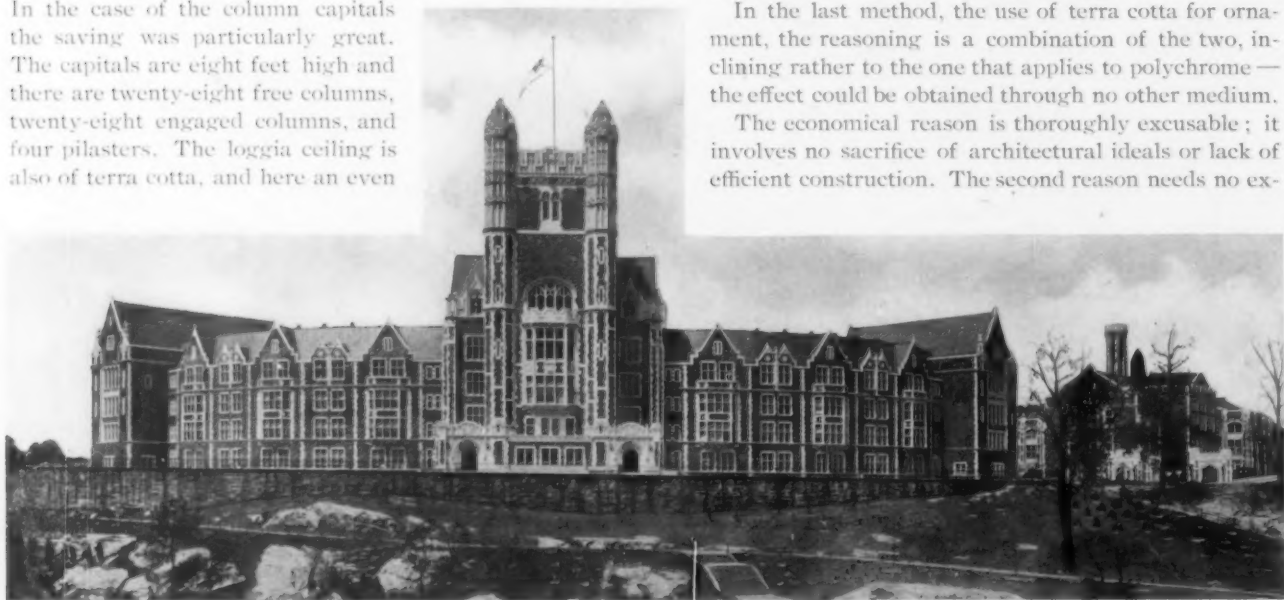
Another important instance is the State Education Building, Albany, N. Y. It is said that half a million dollars were saved on this building by the use of terra cotta instead of marble for the ornament. In the case of the column capitals the saving was particularly great. The capitals are eight feet high and there are twenty-eight free columns, twenty-eight engaged columns, and four pilasters. The loggia ceiling is also of terra cotta, and here an even

nection with stone, each one with countless possible variations. The first, that of using plain terra cotta in harmony with the stone on account of economy, is easily explained. It is frequently applied to monumental buildings where cost need not be considered, on the ground that if the desired effect can be obtained in architectural terra cotta at a considerable saving and with thorough structural efficiency,—then terra cotta should be used.

In using the material with stone construction in contrast to stone, the same reasoning would apply if it were in one color, unless it should be a unique terra cotta color. If a unique color or faience is used, it is used because it best expresses the desired effect—in fact, an effect that could be obtained through no other medium.

In the last method, the use of terra cotta for ornament, the reasoning is a combination of the two, inclining rather to the one that applies to polychrome—the effect could be obtained through no other medium.

The economical reason is thoroughly excusable; it involves no sacrifice of architectural ideals or lack of efficient construction. The second reason needs no ex-



COLLEGE OF THE CITY OF NEW YORK.  
Geo. B. Post & Sons, Architects.

The white material is entirely matt white architectural terra cotta. The scheme contains several hundred grotesque figures about four feet high, which show the possibilities of terra cotta modeling.

more distinctive characteristic is applied; the delicate tracery modeling is accentuated with a background of light blue.

There are, then, three chief uses of terra cotta in con-

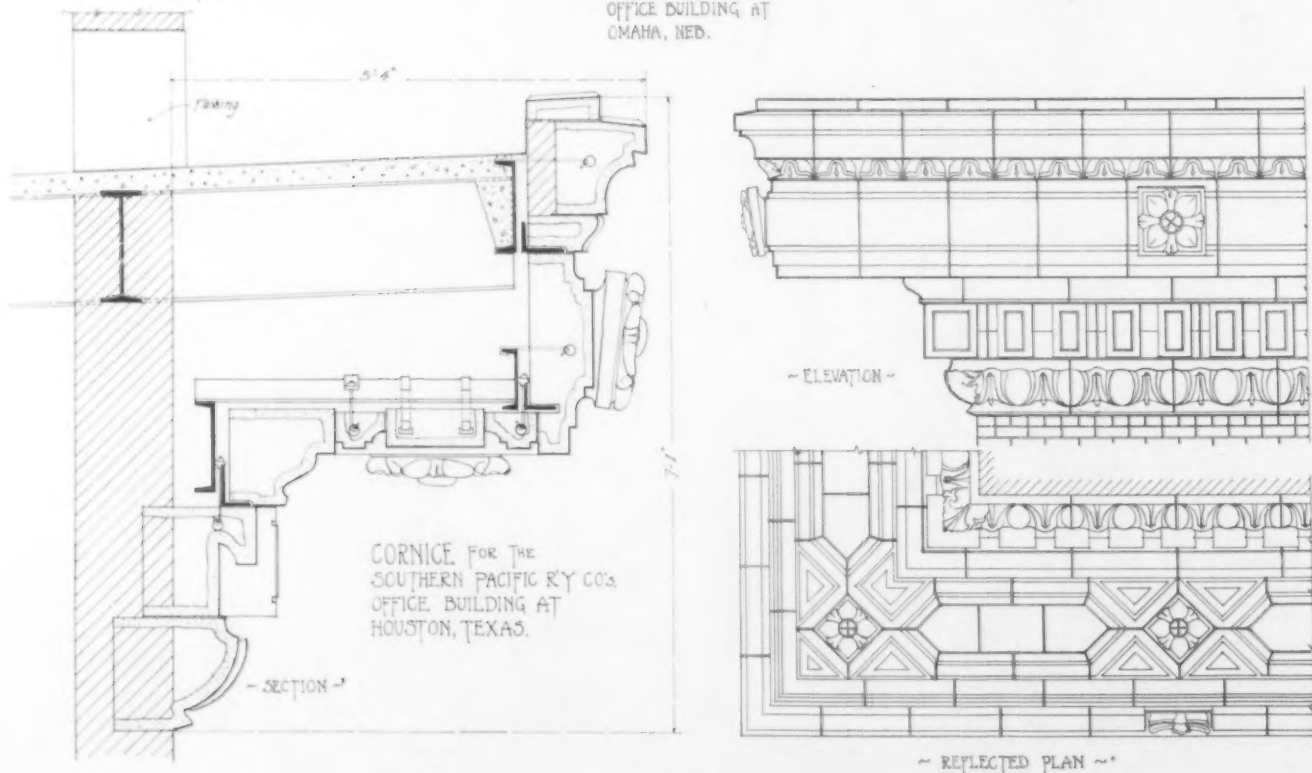
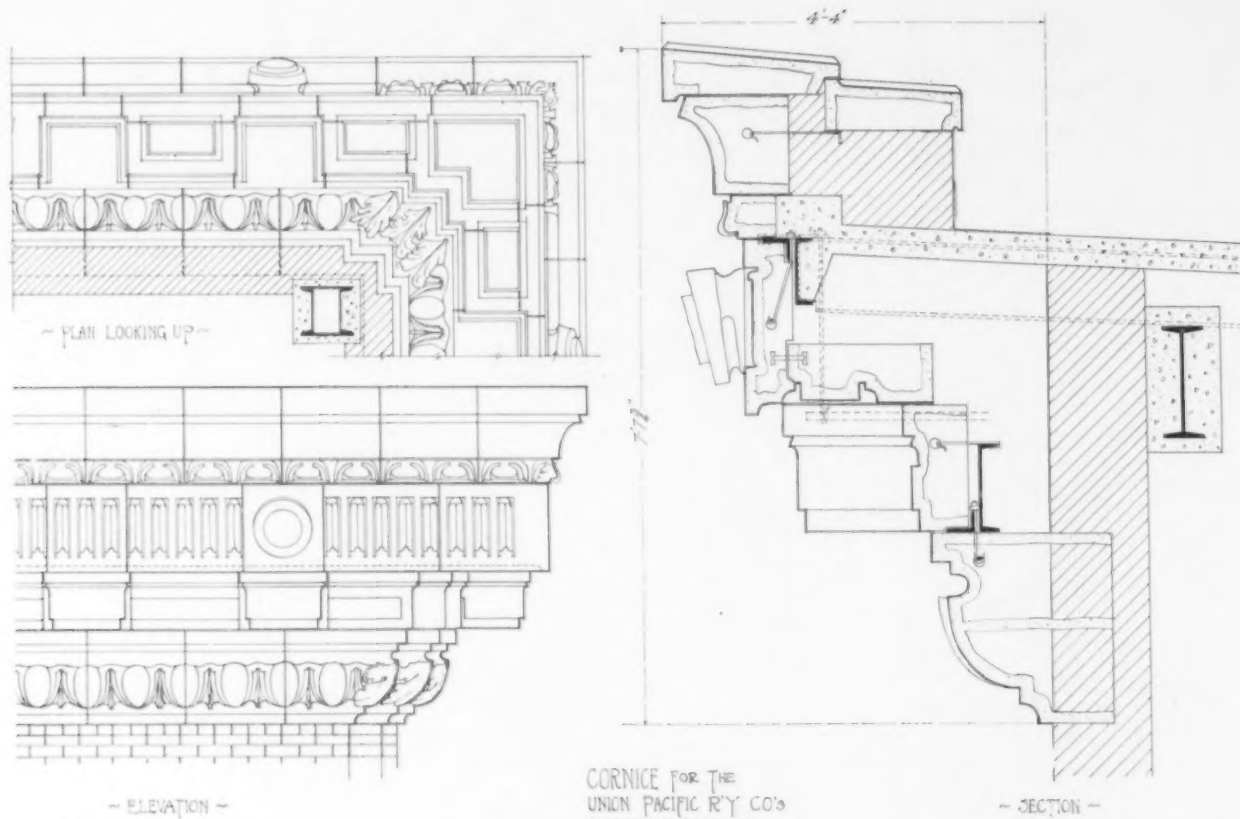
nection with stone, each one with countless possible variations. The first, that of using plain terra cotta in harmony with the stone on account of economy, is easily explained. It is frequently applied to monumental buildings where cost need not be considered, on the ground that if the desired effect can be obtained in architectural terra cotta at a considerable saving and with thorough structural efficiency,—then terra cotta should be used.

cause; architectural terra cotta stands in an independent and unique position as the only permanently enduring structural material that combines the two elements of expression,—form and color.





MAIN FAÇADE OF PALAZZO ISOLANI, BOLOGNA, ITALY.



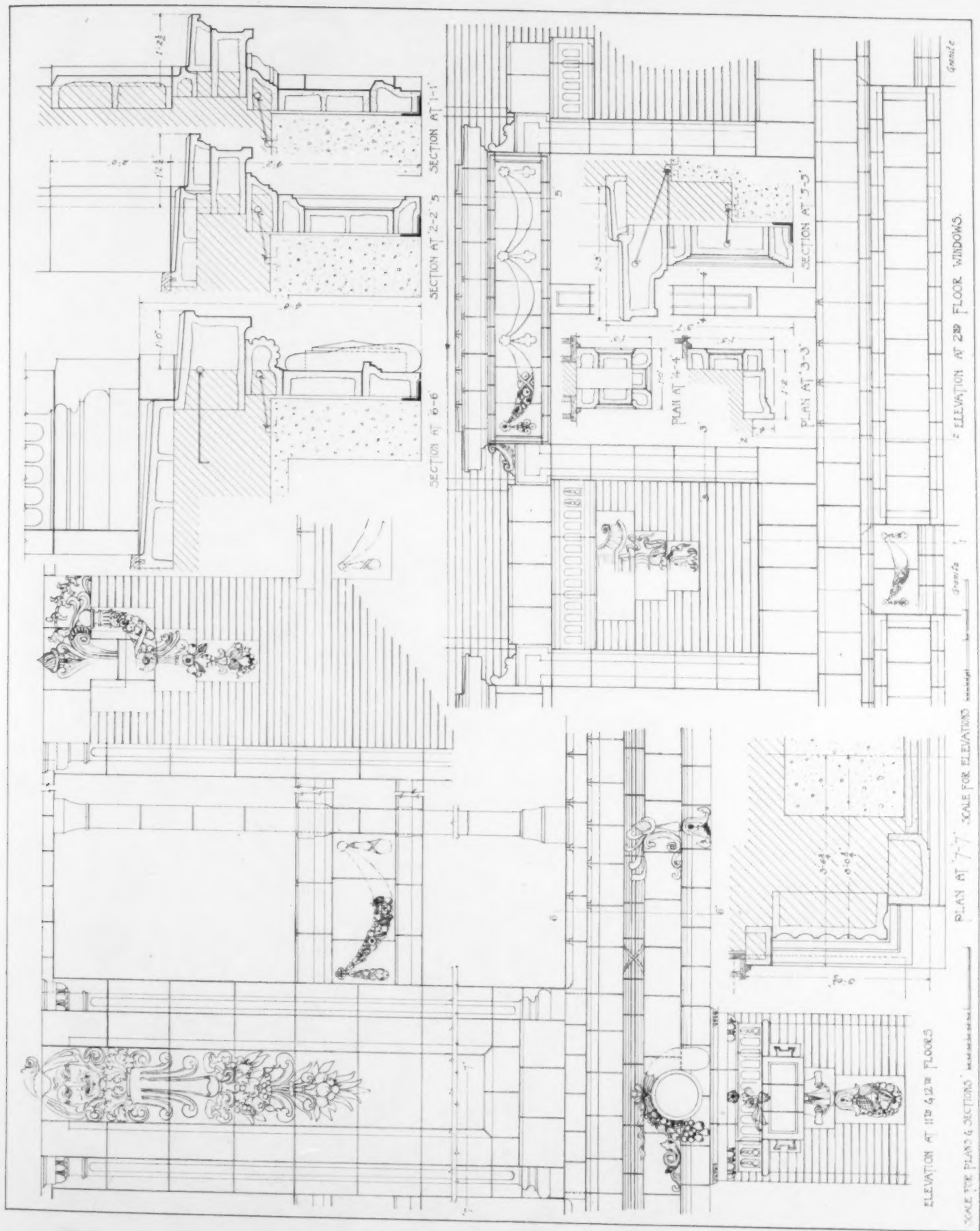
SCALE FOR SECTIONS

SCALE FOR PLANS & ELEVATIONS

# TERRA COTTA DETAILS FROM TWO BUILDINGS.

Jarvis Hunt, Architect.

Work executed by the American Terra Cotta & Ceramic Company.

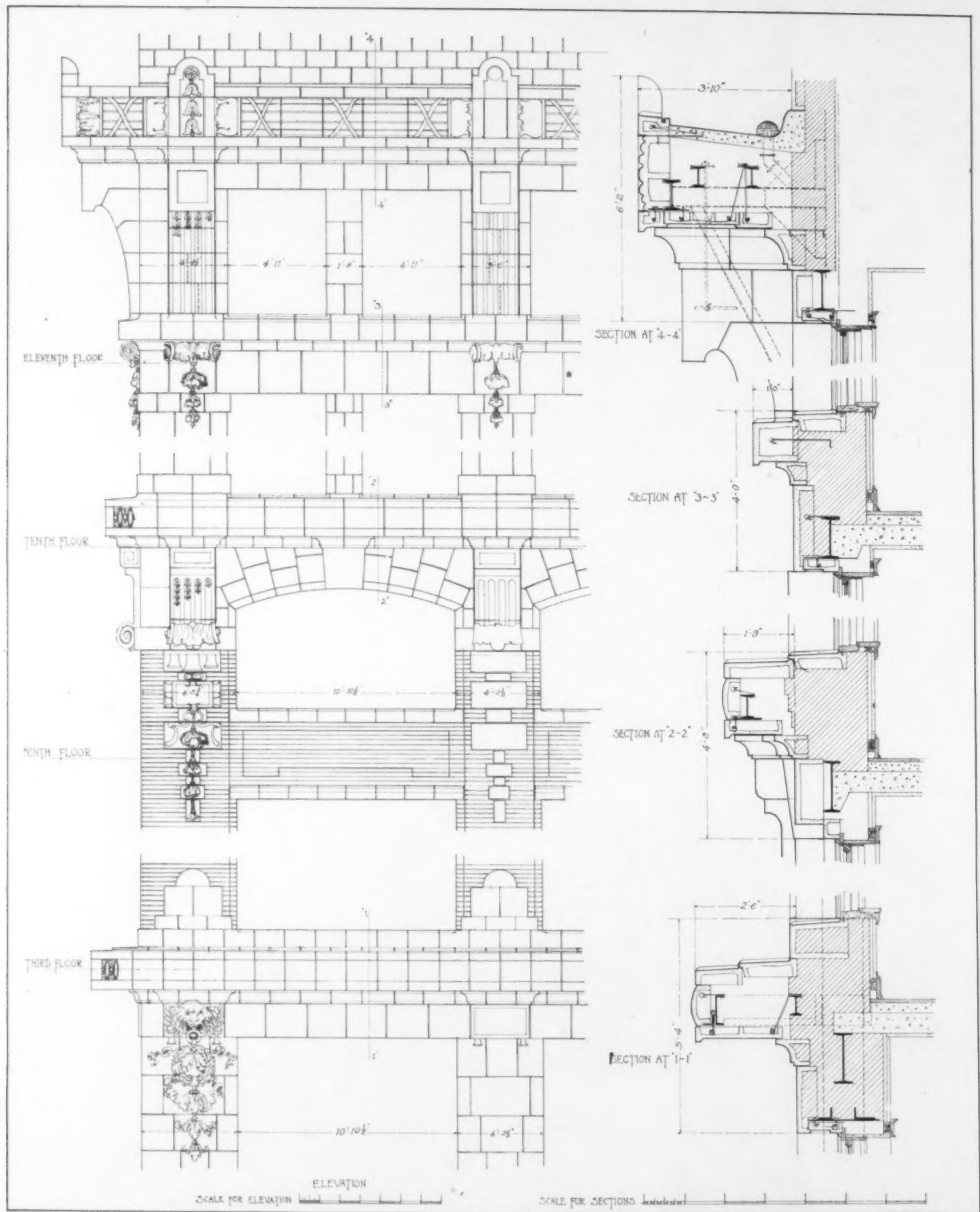


TERRA COTTA DETAILS, LOWRY BUILDING, ST. PAUL, MINN.

Work executed by the American Terra Cotta & Ceramic Co.

Kees & Colburn, Architects.

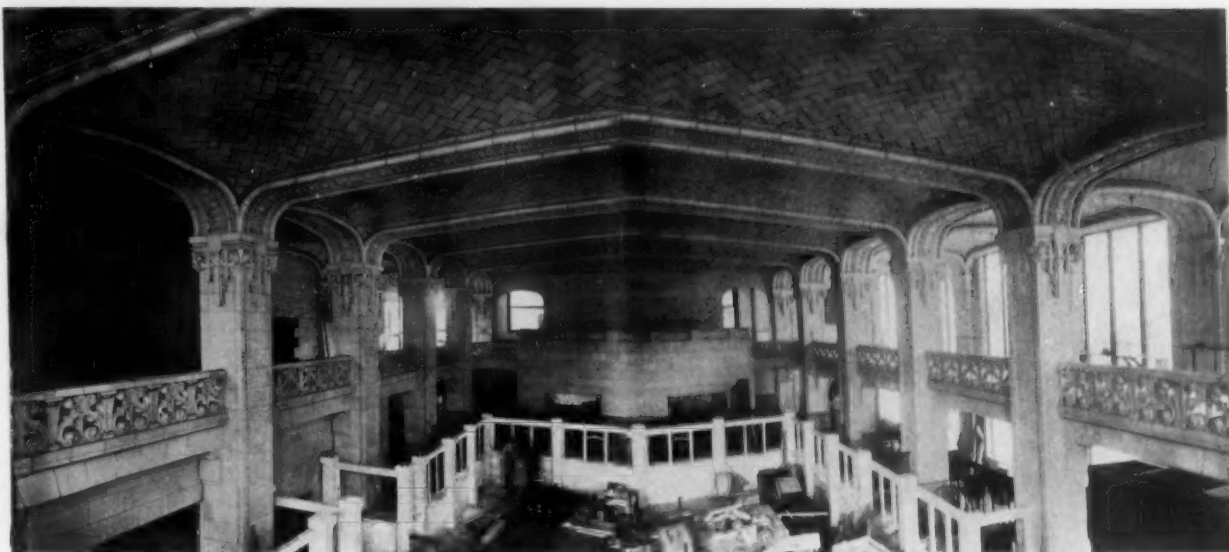




TERRA COTTA DETAILS, COMMERCIAL NATIONAL BANK BUILDING, SHREVEPORT, LA.

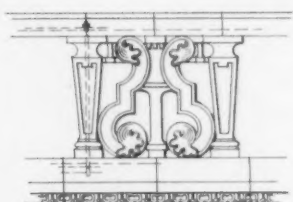
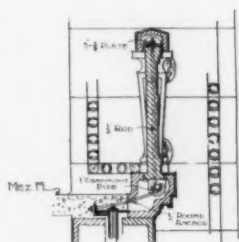
George R. Mann, Architect.

Work executed by the American Terra Cotta & Ceramic Co.



THIRD NATIONAL BANK, ATLANTA, GA.

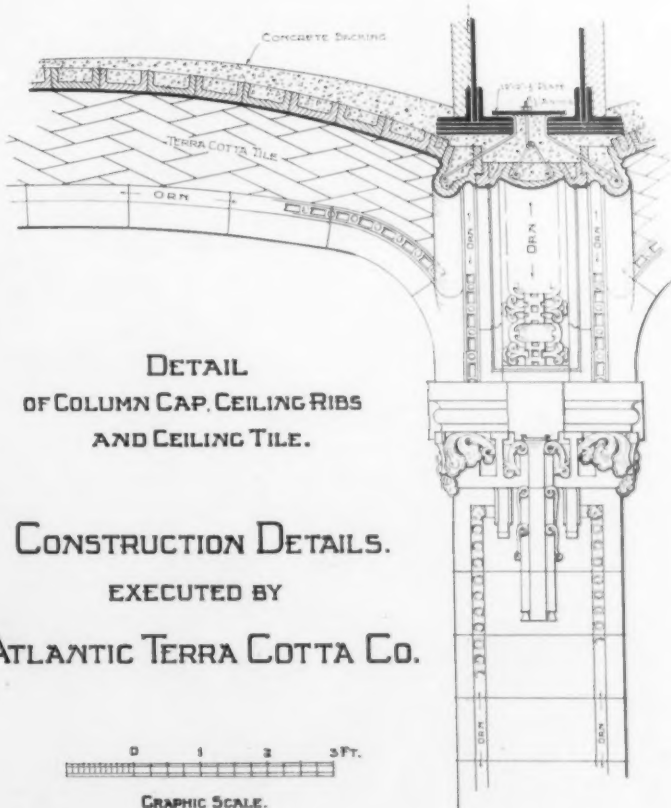
MORGAN & DILLON, A. TEN EYCK BROWN, AND W. T. DOWNING, ASSOCIATED ARCHITECTS. GRANT CONSTRUCTION CO., BUILDERS.  
WITH THE EXCEPTION OF THE FLOORS THE INTERIOR IS ENTIRELY OF GRAY ATLANTIC TERRA COTTA.



DETAIL OF BALUSTRADE.



THIRD NATIONAL BANK, ATLANTA, GA.



DETAIL  
OF COLUMN CAP, CEILING RIBS  
AND CEILING TILE.

CONSTRUCTION DETAILS.  
EXECUTED BY  
ATLANTIC TERRA COTTA CO.

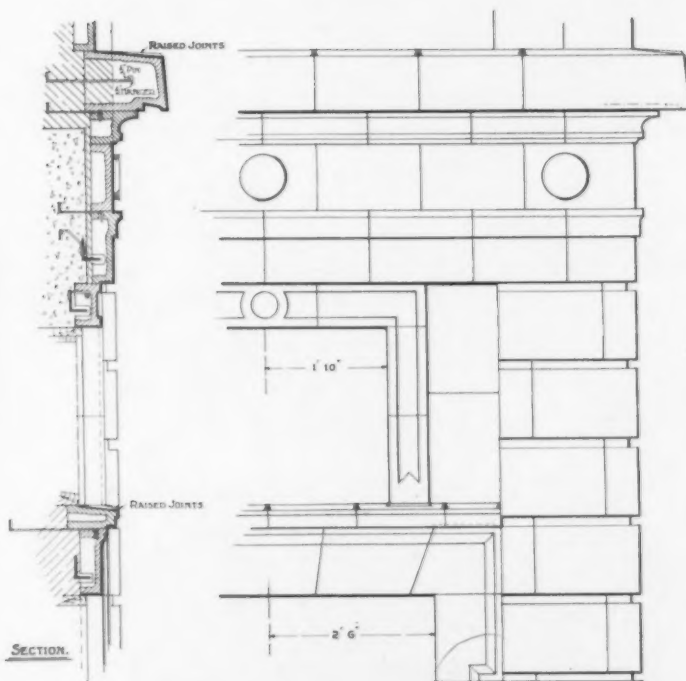
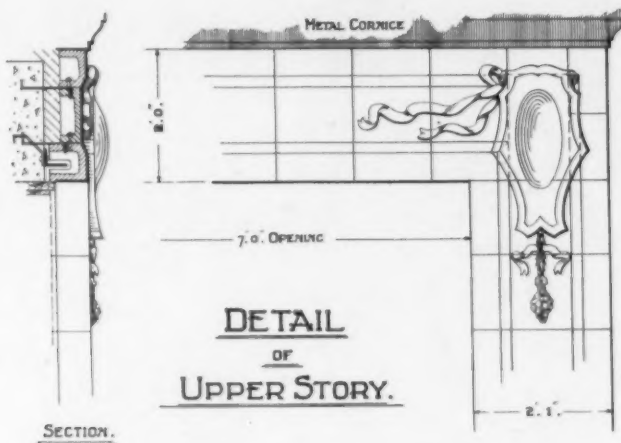


TERRA COTTA DETAILS, THIRD NATIONAL BANK, ATLANTA, GA.

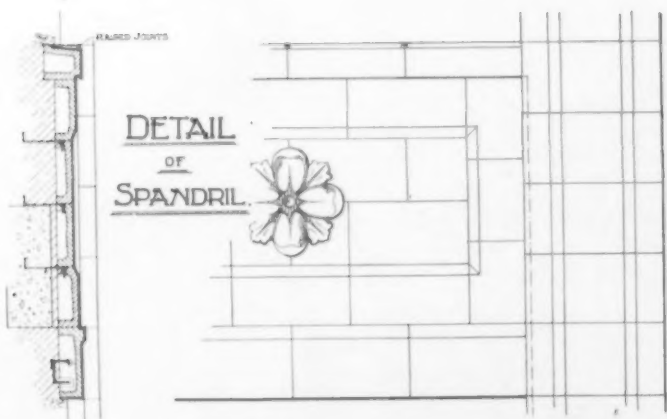
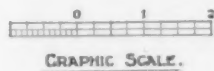
MORGAN & DILLON, A. TEN EYCK BROWN, AND W. T. DOWNING, ASSOCIATED ARCHITECTS. Work executed by the Atlantic Terra Cotta Company.



MILLER & RITTER BUILDING,  
HUNTINGTON, WEST VIRGINIA.  
ROBERT L. DAY, ARCHITECT.  
ENTIRELY OF WHITE MATT ATLANTIC TERRA COTTA.



FIRST FLOOR  
DETAIL.



DETAILS

EXECUTED BY

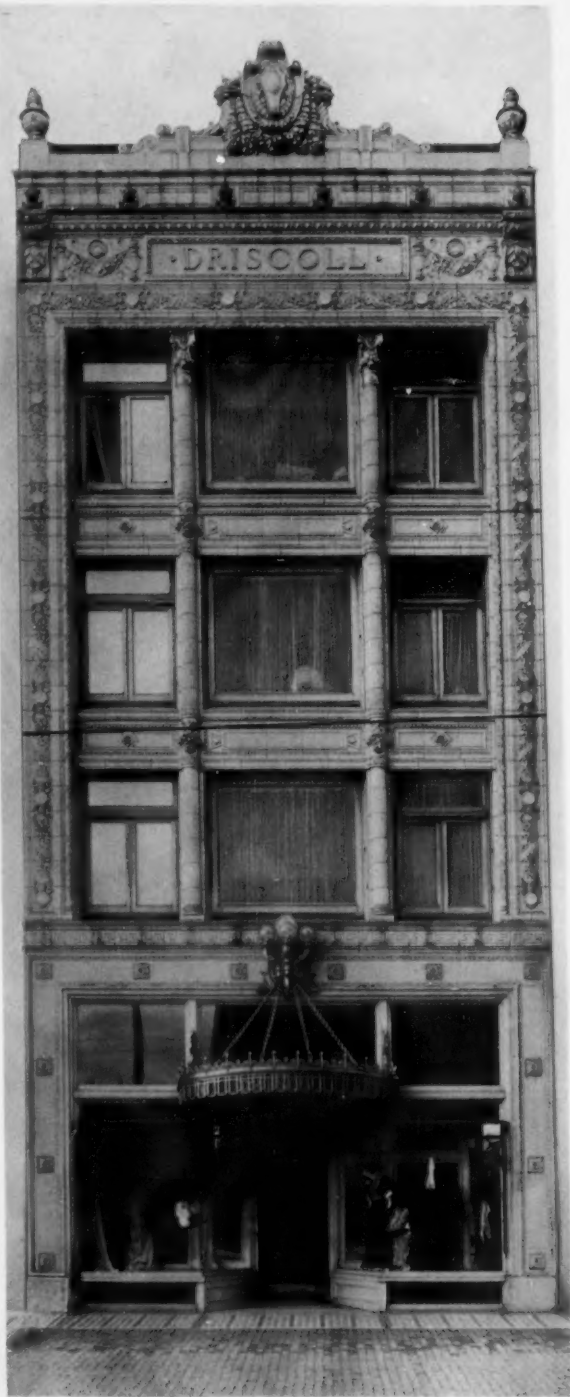
ATLANTIC TERRA COTTA CO.

TERRA COTTA DETAILS, MILLER & RITTER BUILDING, HUNTINGTON, W. VA.

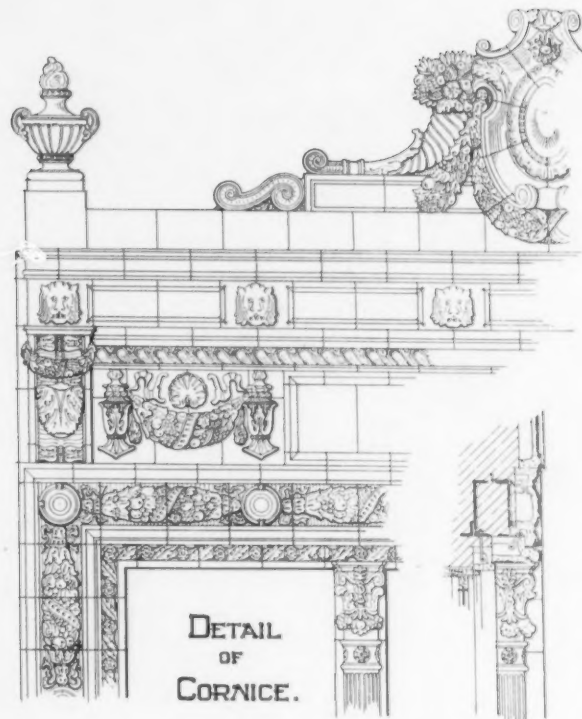
Robert L. Day, Architect.

Work executed by the Atlantic Terra Cotta Company.



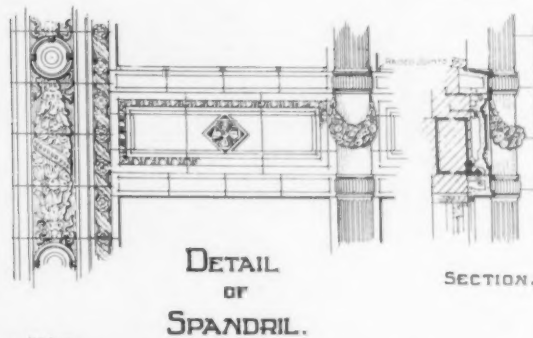


DRISCOLL STORE, BOSTON, MASS.  
PEABODY & STEARNS, ARCHITECTS.  
GEO. W. HARVEY CO., BUILDERS.  
ATLANTIC WHITE MATT TERRA COTTA FROM FIRST STORY TO ROOF.



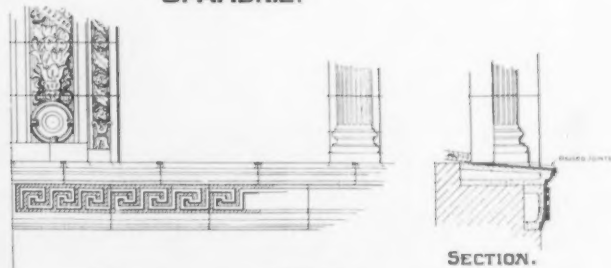
DETAIL  
OF  
CORNICE.

SECTION.



DETAIL  
OF  
SPANDRIL.

SECTION.



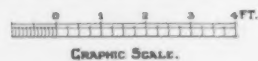
DETAIL OF 2<sup>ND</sup> STORY.

SECTION.

## CONSTRUCTION DETAILS.

EXECUTED BY

ATLANTIC TERRA COTTA CO.



GRAPHIC SCALE.

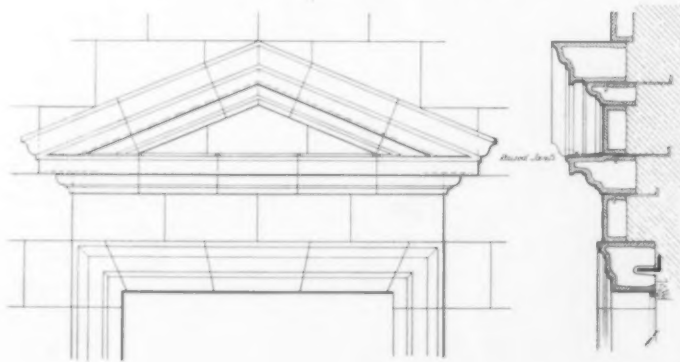
TERRA COTTA DETAILS, DRISCOLL STORE, BOSTON, MASS.

Peabody & Stearns, Architects.

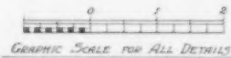
Work executed by the Atlantic Terra Cotta Company.



THE GUARANTEED PURE MILK CO., LTD.,  
MONTREAL, CAN.  
HUTCHISON, WOOD & MILLER, ARCHITECTS.  
ENTIRELY OF WHITE MATT ATLANTIC TERRA COTTA WITH PANEL  
BACKGROUNDS IN BRIGHT COLORS.

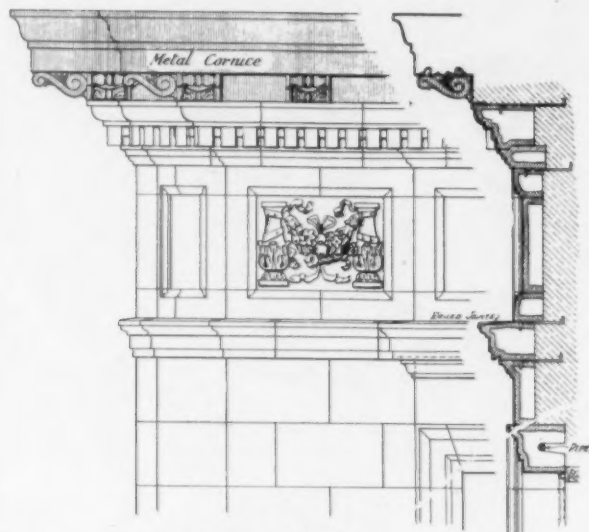


+ DETAILS OF SIDE ENTRANCE +

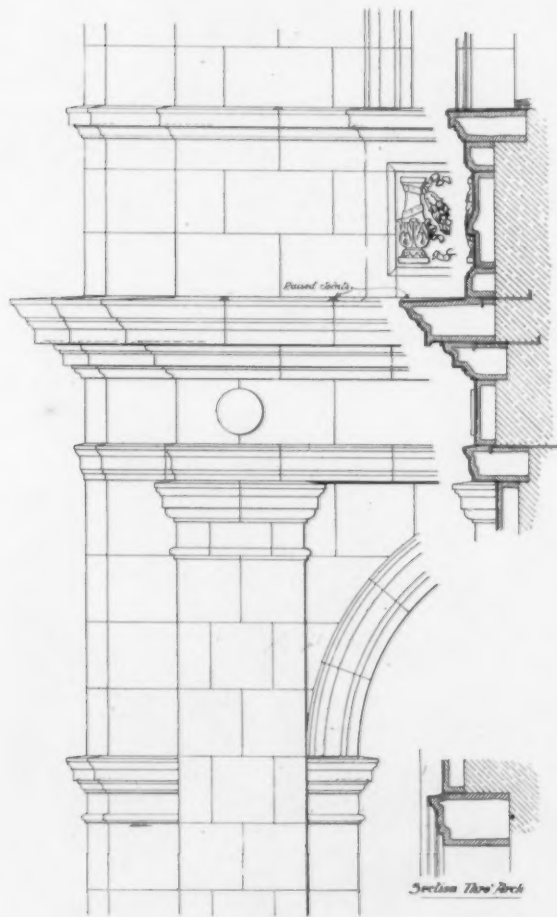


# CONSTRUCTION DETAILS

— EXECUTED BY ATLANTIC TERRA COTTA CO —



- DETAIL OF CORNICE -



+ DETAILS OF FIRST STORY +

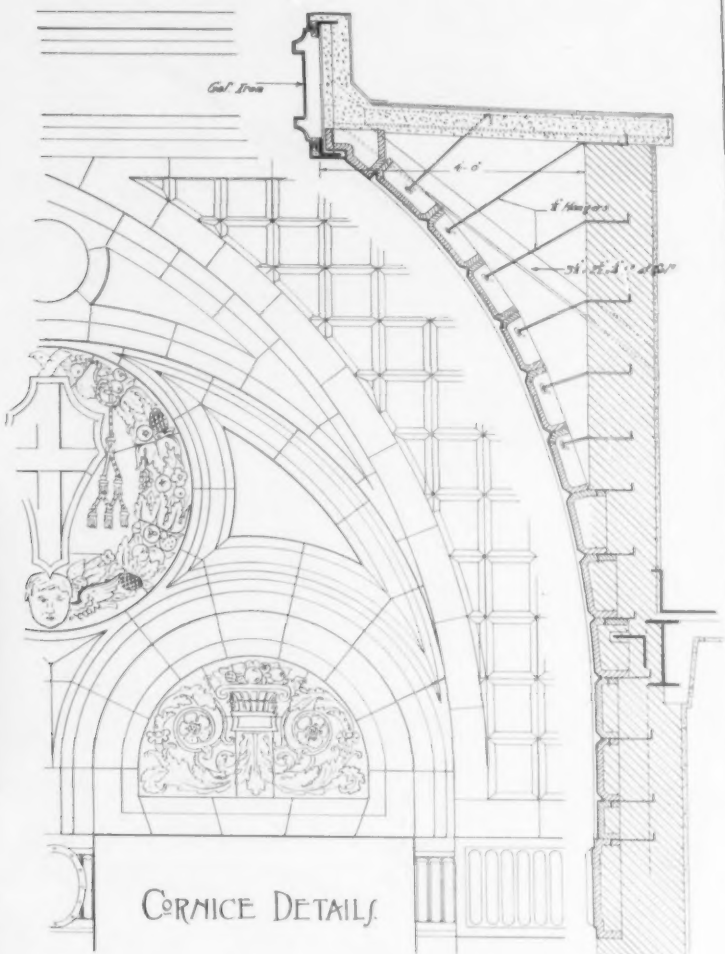
TERRA COTTA DETAILS, THE GUARANTEED PURE MILK CO., LTD., MONTREAL, CAN.

Hutchison, Wood & Miller, Architects.

Work executed by the Atlantic Terra Cotta Company.

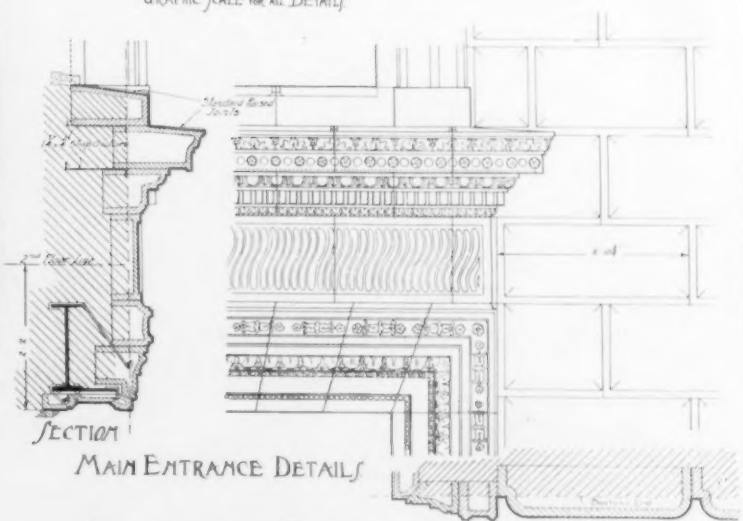


LOFT BUILDING, NEW YORK.  
SQUIRES & WYNCOOP, ARCHITECTS.  
THEO. STARRETT CO., BUILDERS.  
FIRST THREE STORIES, ALL SPANDRELS AND MAIN CORNICE  
ENTIRELY OF BUFF ATLANTIC TERRA COTTA. NOTICE  
UNUSUALLY LARGE ASHLARS.



SECTION THRU CORNICE

GRAPHIC SCALE FOR ALL DETAILS



SECTION 1  
MAIN ENTRANCE DETAILS

### CONSTRUCTION DETAILS

EXECUTED BY ATLANTIC TERRA COTTA COMPANY

TERRA COTTA DETAILS, LOFT BUILDING, NEW YORK.

Squires & Wyncoop, Architects.

Work executed by the Atlantic Terra Cotta Company.



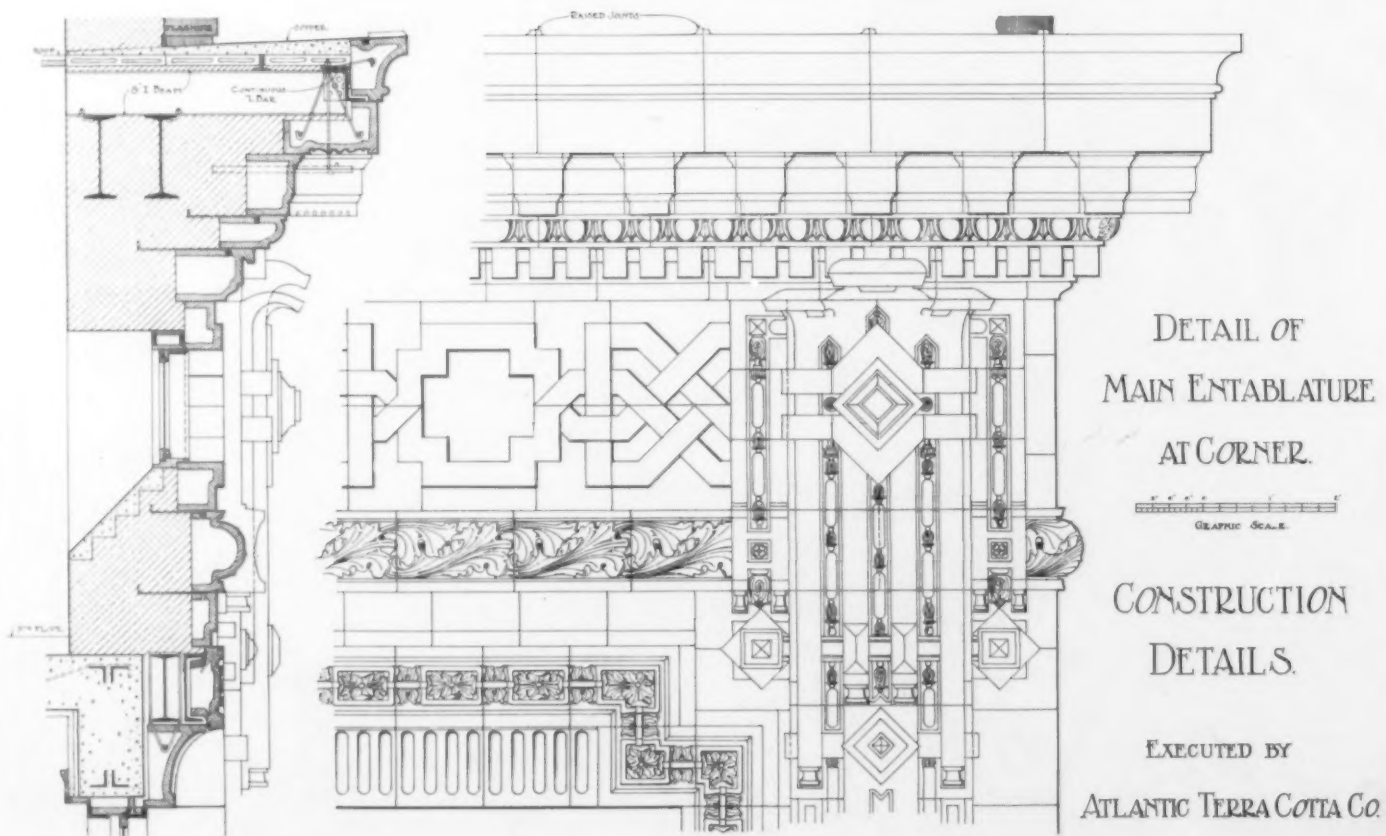


HIGBEE STORE, CLEVELAND, OHIO.

A. GARFIELD, ARCHITECT.

REAUGH CONSTRUCTION CO., BUILDERS.

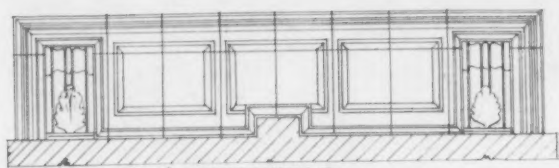
ENTIRELY OF CREAM GLAZE ATLANTIC TERRA COTTA.



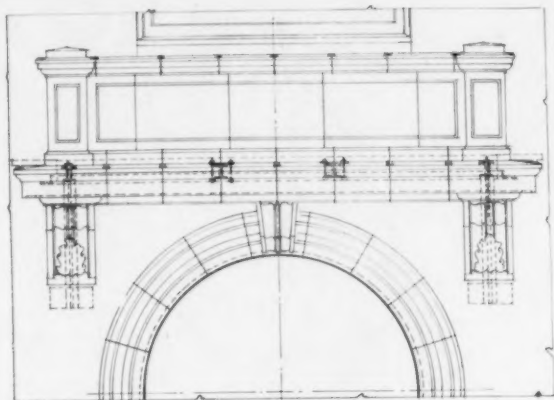
TERRA COTTA DETAILS, HIGBEE STORE, CLEVELAND, OHIO.

A. Garfield, Architect.

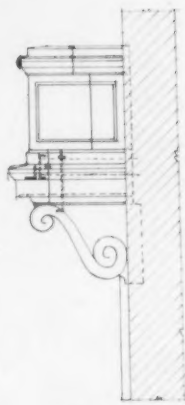
Work executed by the Atlantic Terra Cotta Company.



—PLAN OF SOFFIT LOOKING UP—

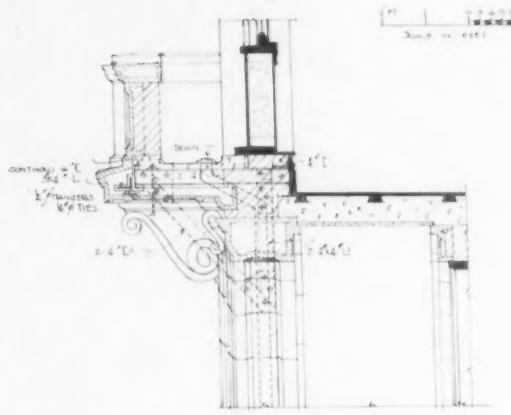


—ELEVATION—

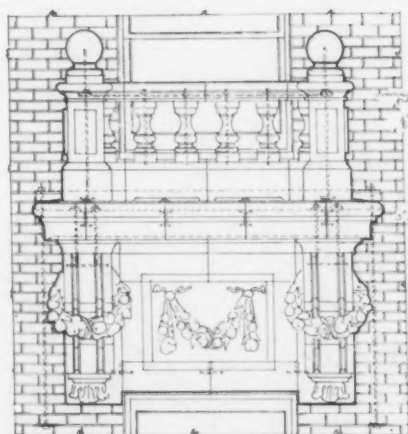


—END VIEW—

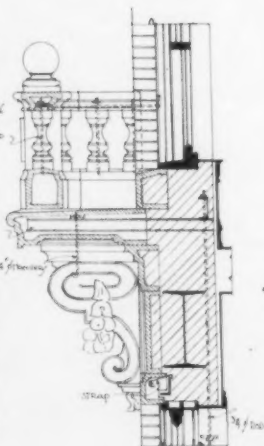
—DETAIL OF BALCONY OVER MAIN ENTRANCE—  
—LAWRENCEVILLE BRANCH Y.M.C.A.—  
—PITTSBURG - PA.—  
—ROBERT MAURICE TRIMBLE ARCH'T.—



—SECTION—

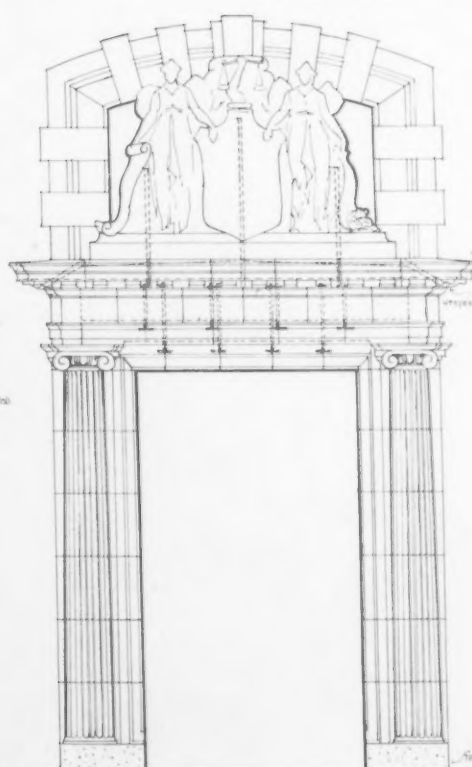


—ELEVATION—

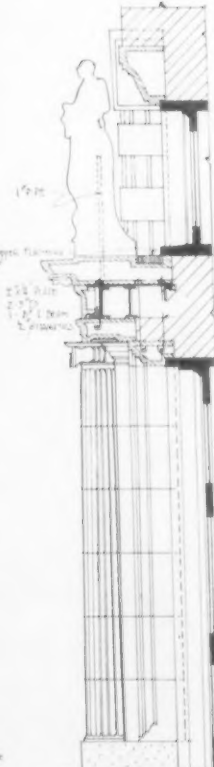


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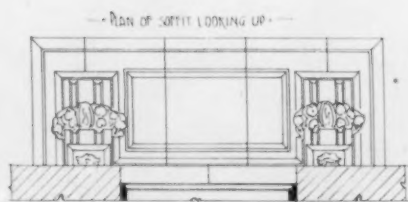
—DETAIL OF MAIN ENTRANCE—  
—PUBLIC BATH HOUSE—PHILA. PA.—  
—CARL B. ZILENZIGER ARCH'T.—



—ELEVATION—

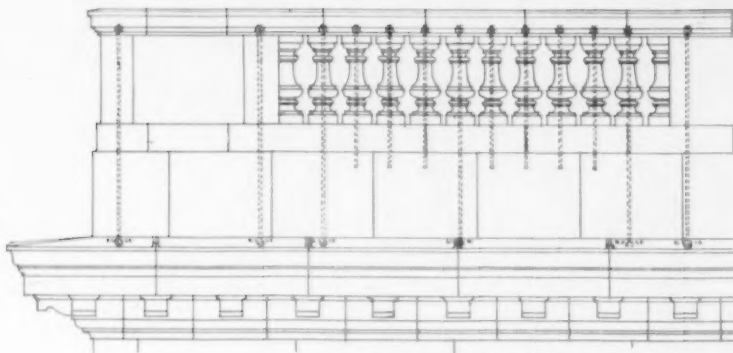


—SECTION—

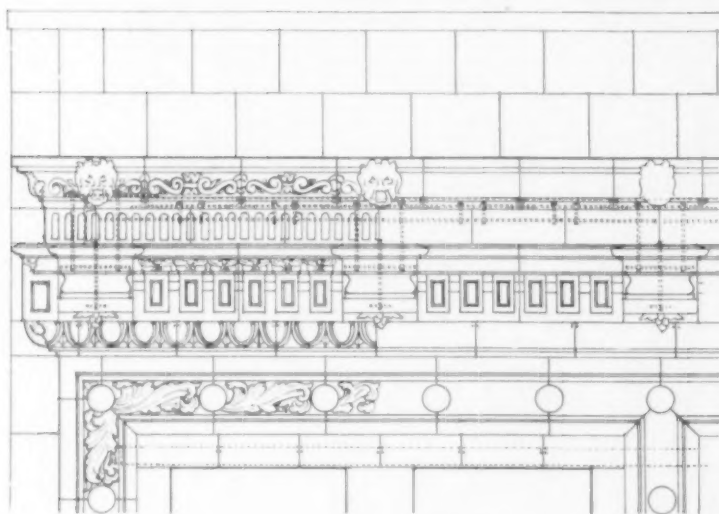
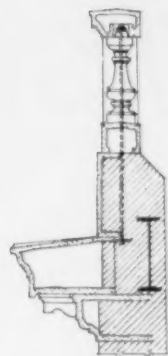


—DETAIL OF BALCONY—  
—TRUCK HOUSE—PHILA. PA.—  
—CARL B. ZILENZIGER ARCH'T.—

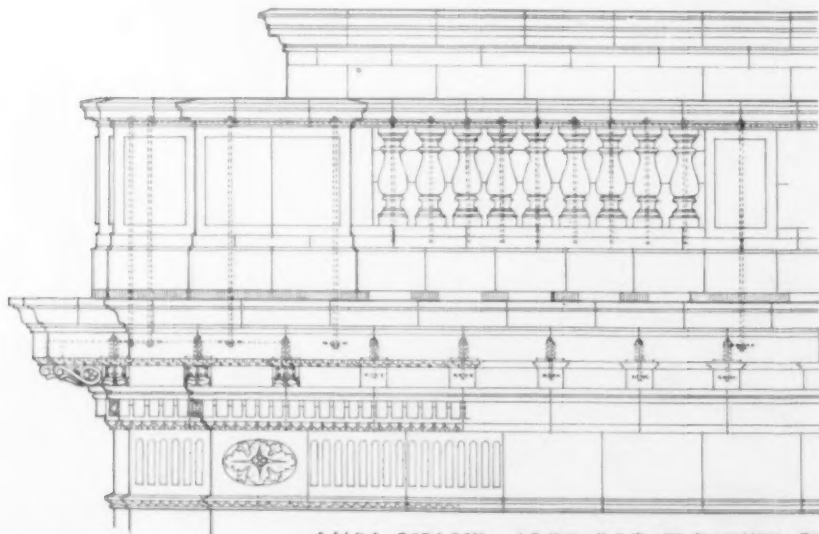
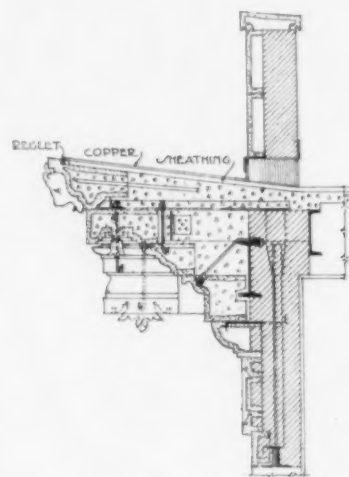
TERRA COTTA DETAILS FROM THREE BUILDINGS.  
Work executed by the Conkling-Armstrong Terra Cotta Company.



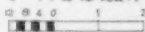
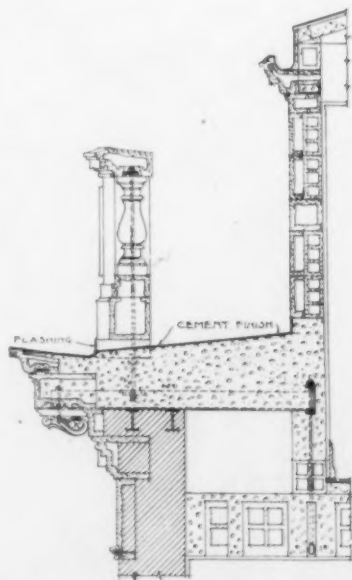
MAIN CORNICE DRORSIE COLLEGE Phila Pa  
PILCHER AND TACHAU Architects



MAIN CORNICE PRESSER BUILDING Phila Pa  
SEYMOUR DAVIS PAUL A DAVIS Architects

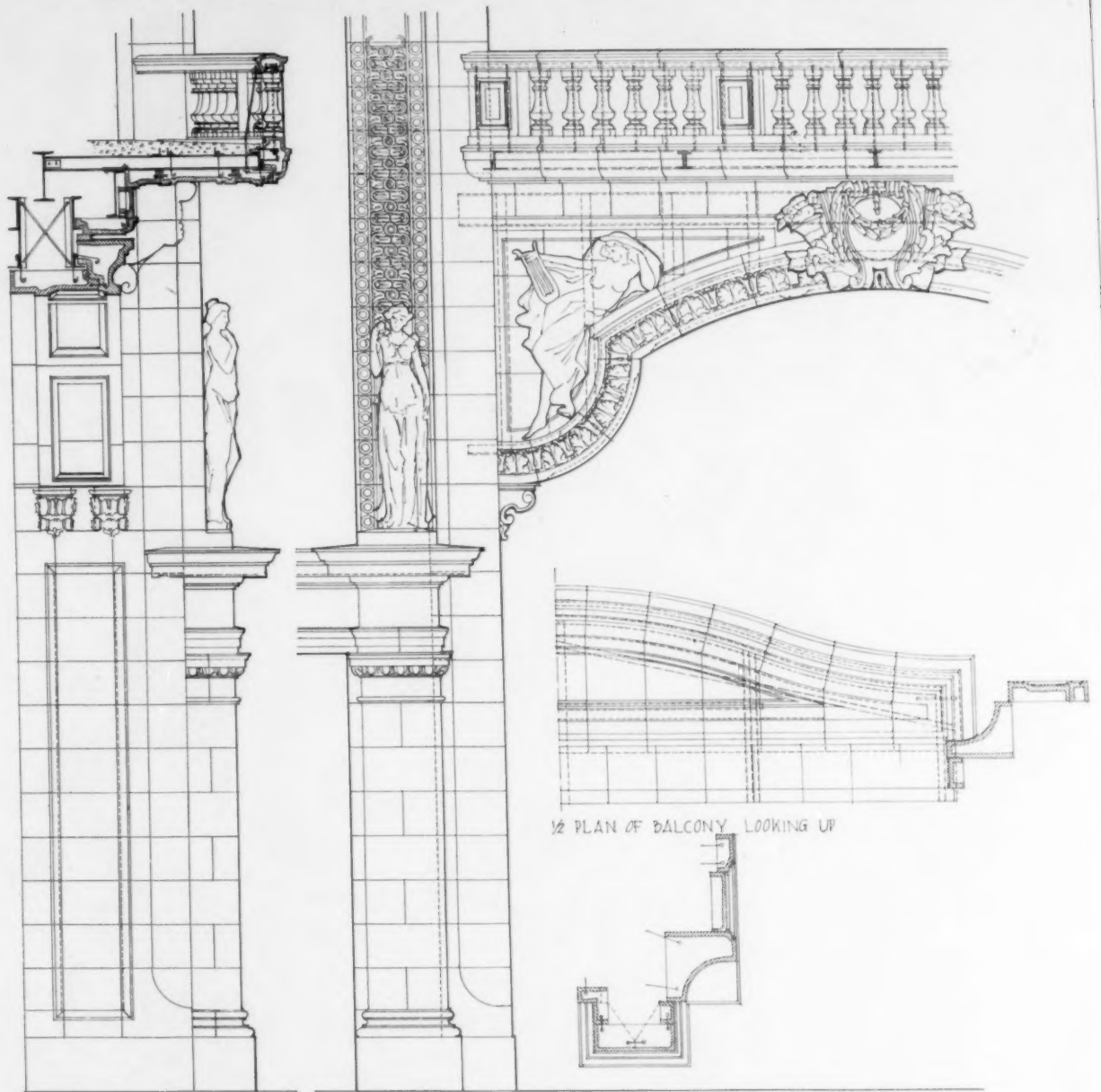


MAIN CORNICE LINDENHURST ESTATE Phila Pa.  
JOHN T WINDRIM Architect



TERRA COTTA DETAILS FROM THREE BUILDINGS.  
Work executed by the Conkling-Armstrong Terra Cotta Company.





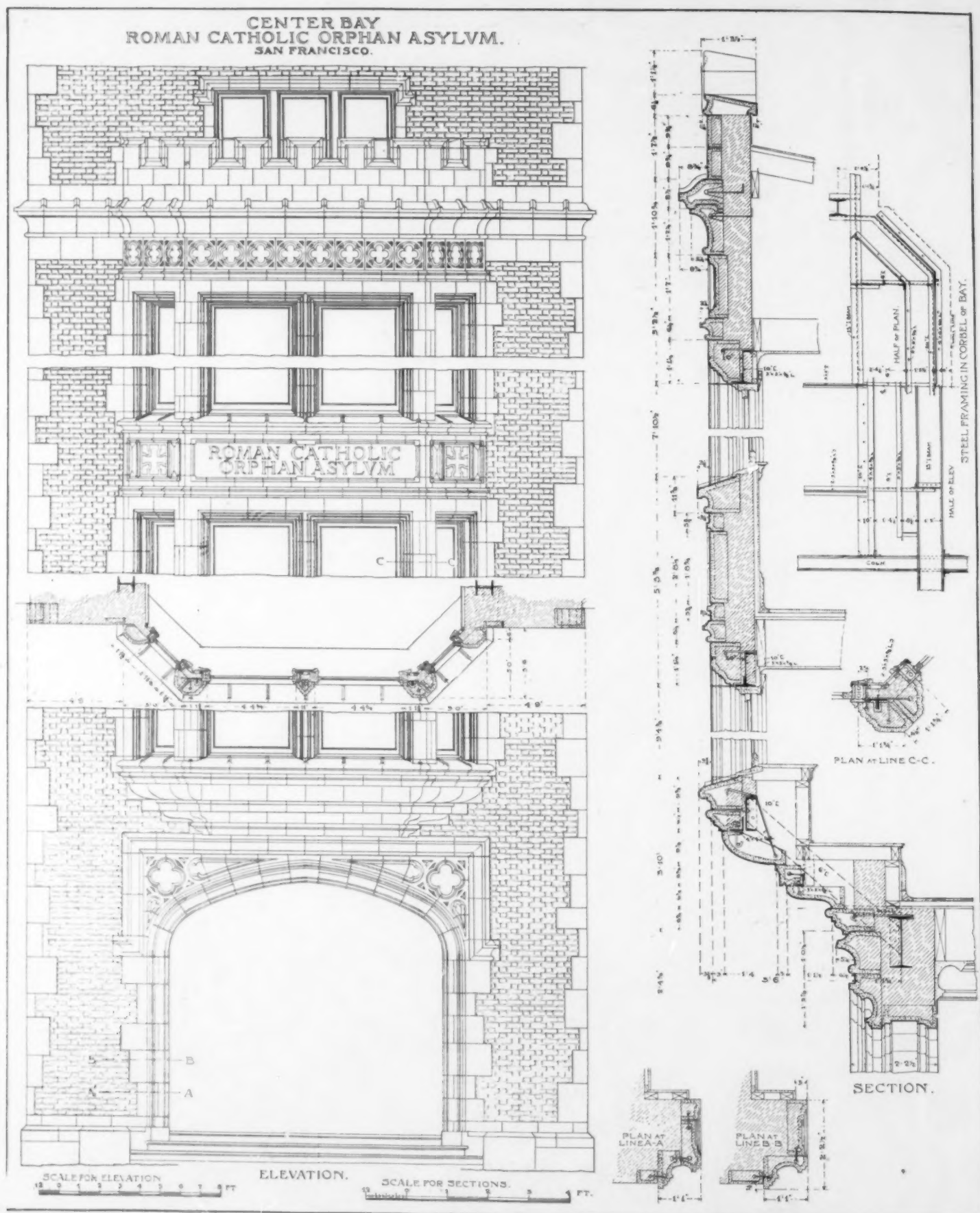
MAIN ENTRANCE KEYSTONE THEATER  
A. E. WESTOVER Architect

12 8 4 0 1 2 3  
SCALE OF FEET.

TERRA COTTA DETAILS, KEYSTONE THEATER, PHILADELPHIA, PA.

A. E. Westover, Architect.

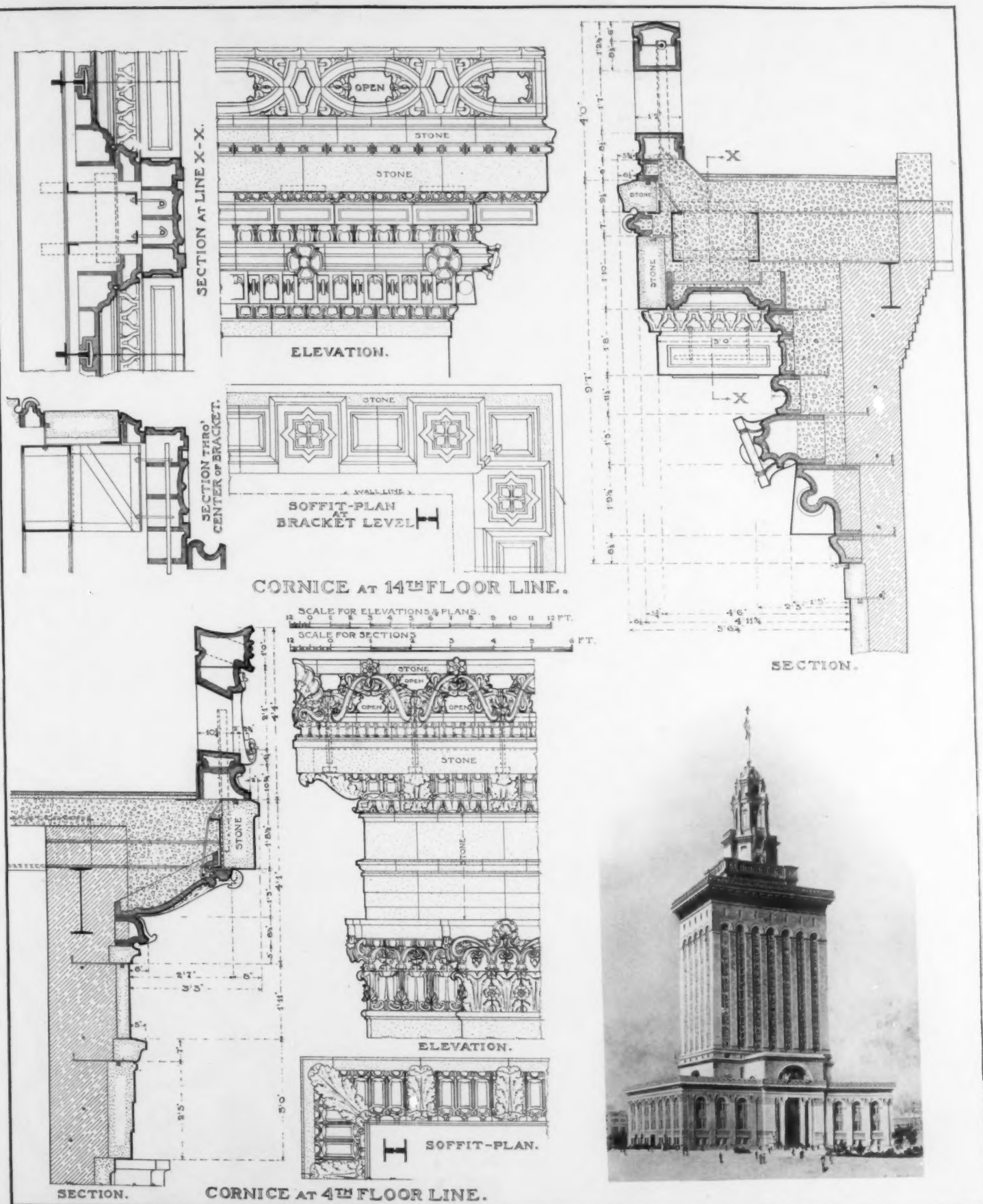
Work executed by the Conkling-Armstrong Terra Cotta Company.



TERRA COTTA DETAILS, ROMAN CATHOLIC ORPHAN ASYLUM, SAN FRANCISCO, CAL.

Smith O'Brien, Architect.

Work executed by Gladding, McBean & Co.



TERRA COTTA DETAILS, OAKLAND CITY HALL, OAKLAND, CAL.

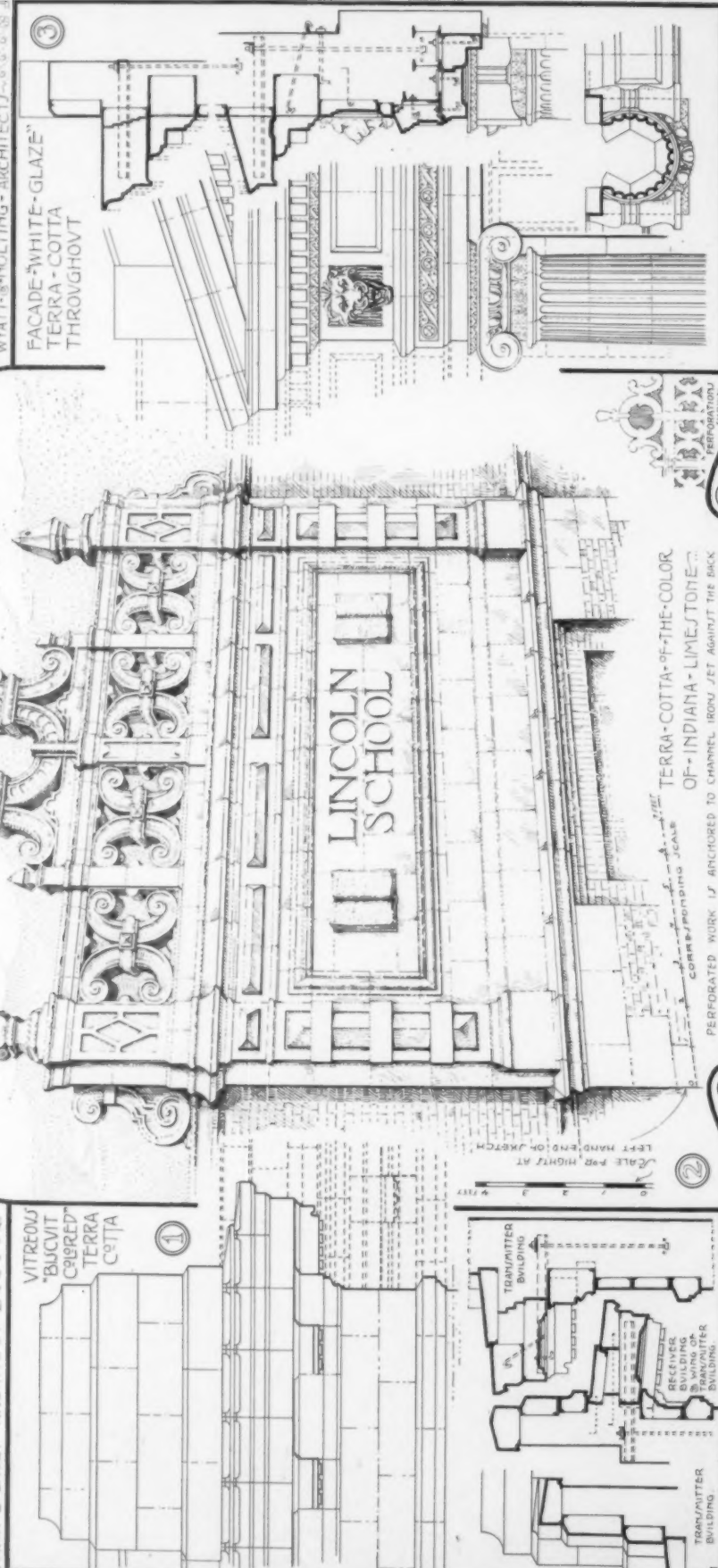
Palmer & Hornbostel, Architects.

Work executed by Gladding, McBean & Co.

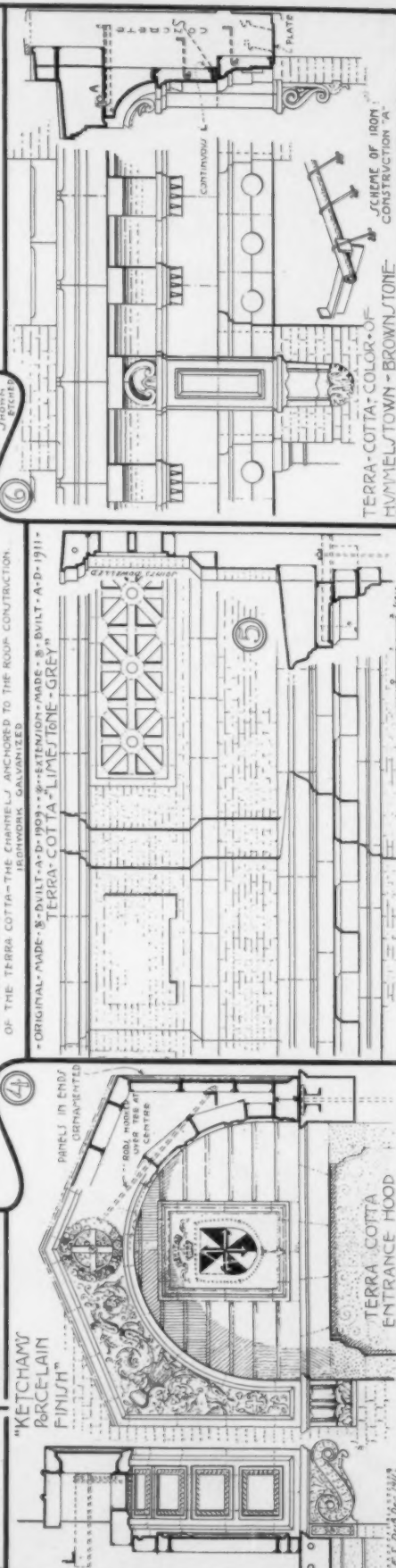


V-S-GOV'T-WIRELESS-STATION--1  
ARLINGTON - VIRGINIA 3 9 5 5 5 2  
BUREAU-YARDS 4 5 5 5 5 5 5 5 5 5 5 5  
HIGH-SCHOOL 5 5 5 5 5 5 5 5 5 5 5 5  
BIRD-BORO - PENNSYLVANIA 5 5 5 5 5 5 5 5 5 5 5 5  
RICHARD-3-BLITHE-ARCHITECT 5 5 5 5 5 5 5 5 5 5 5 5  
GERMANTOWN - AVENUE - BANK-15 5 5 5 5 5 5 5 5 5 5 5 5  
PHILADELPHIA - PENNSYLVANIA 5 5 5 5 5 5 5 5 5 5 5 5  
ADIN-B - LACE - ARCHITECT 5 5 5 5 5 5 5 5 5 5 5 5

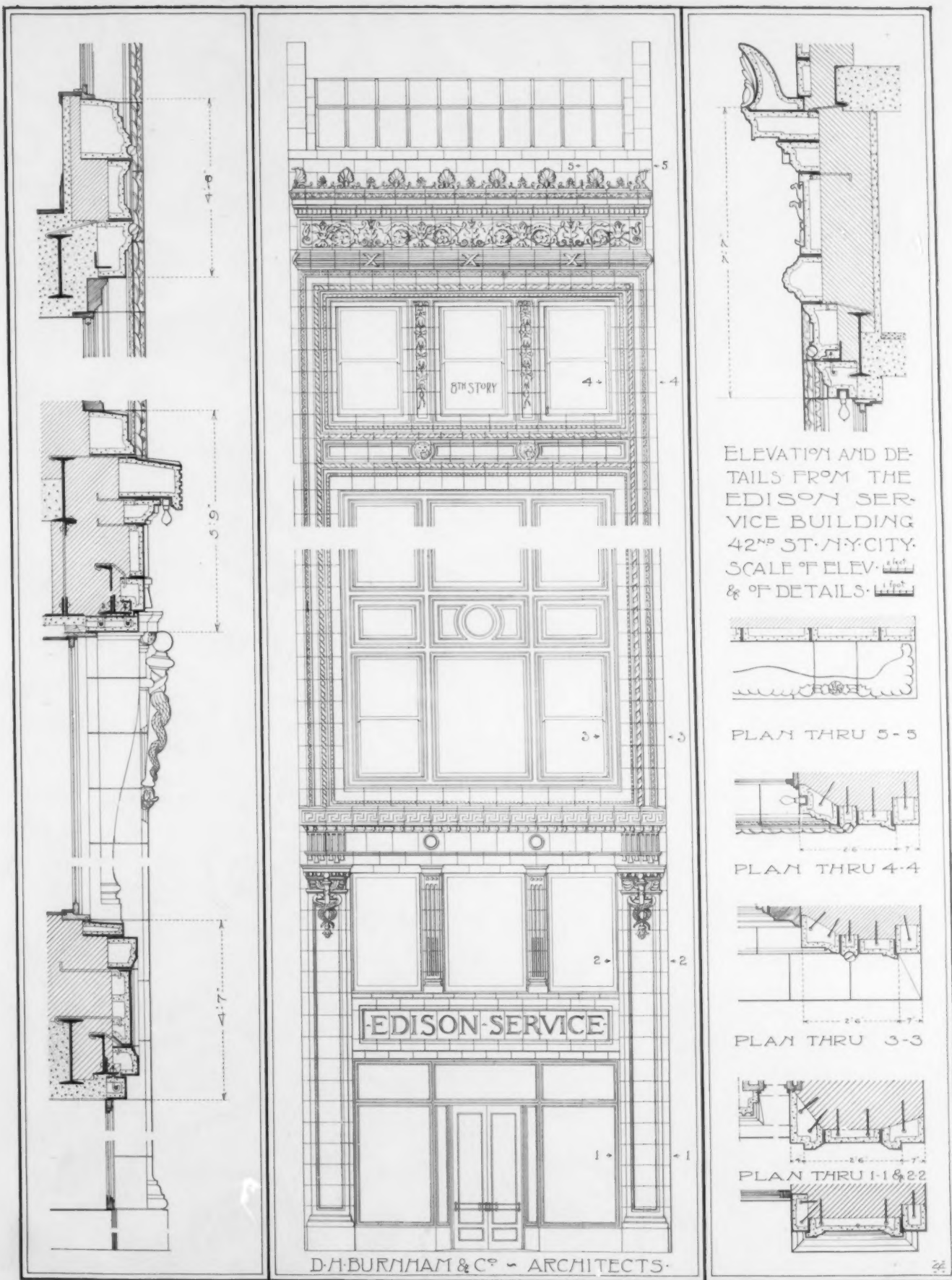
SAINT-ROSE-FREE-HOME 514  
NEW-YORK-CITY 516  
JAMES-W-O'CONNOR-ARCHITECT 99  
VICTOR-OFFICE-BUILDINGS 5  
WASHINGTON-D-C 6  
APPLETON-P-CLARK-JUNIOR-ARCHITECT 6  
CATOR-WAREHOUSE 6  
BALTIMORE-MARYLAND 15  
BONATT-BUILDING 15



PERFORATED WORK IS ANCHORED TO CHANNEL IRON JET AGAINST THE BACK OF THE TERRA COTTA-THE CHANNELS ANCHORED TO THE ROOF CONSTRUCTION IRONWORK GALVANIZED



TERRA COTTA DETAILS FROM SIX BUILDINGS.  
Work executed by the O. W. Ketcham Terra Cotta Works.

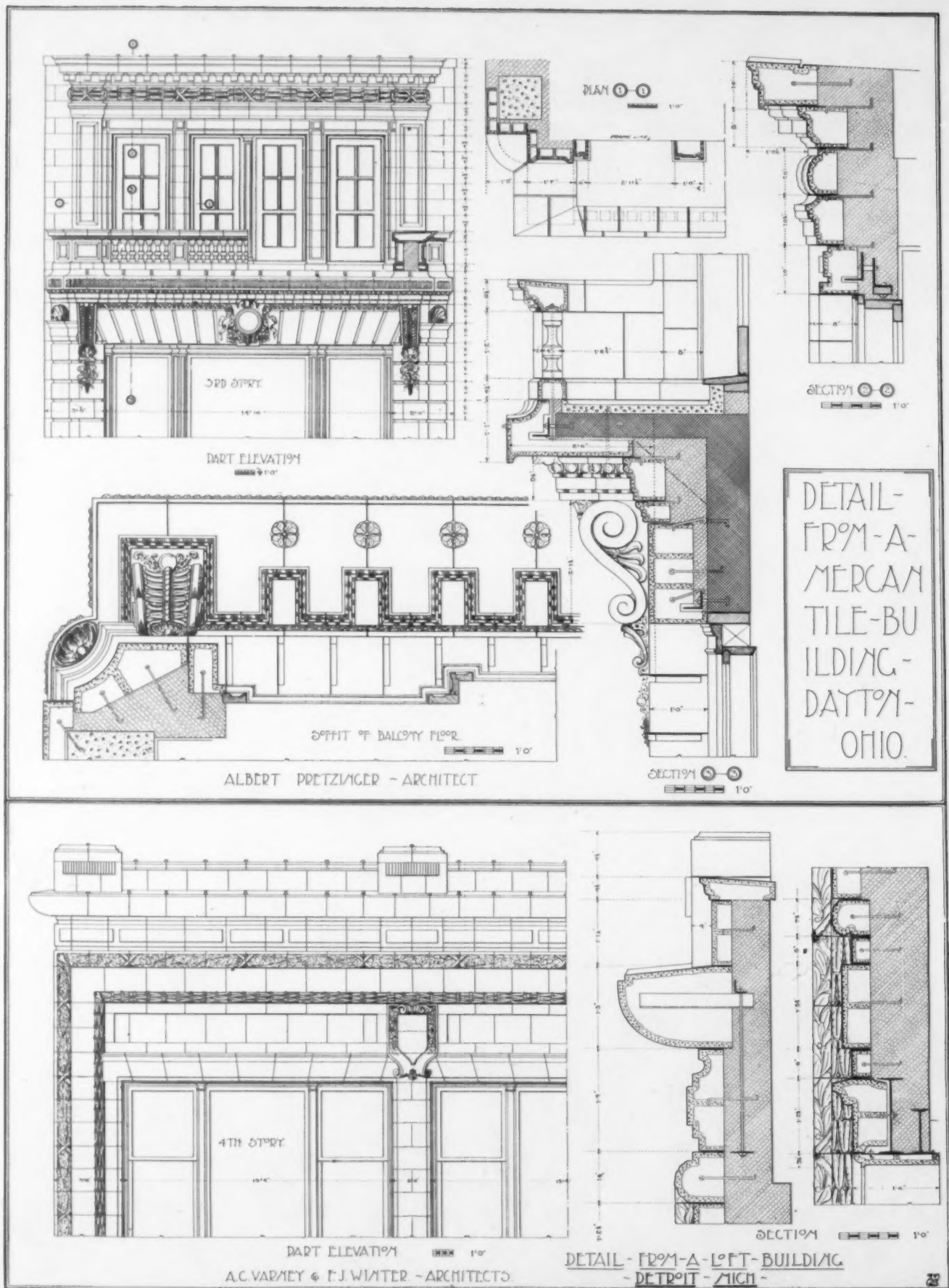


TERRA COTTA DETAILS, THE EDISON SERVICE BUILDING, NEW YORK CITY.

D. H. Burnham & Co., Architects.

Work executed by the New Jersey Terra Cotta Company.

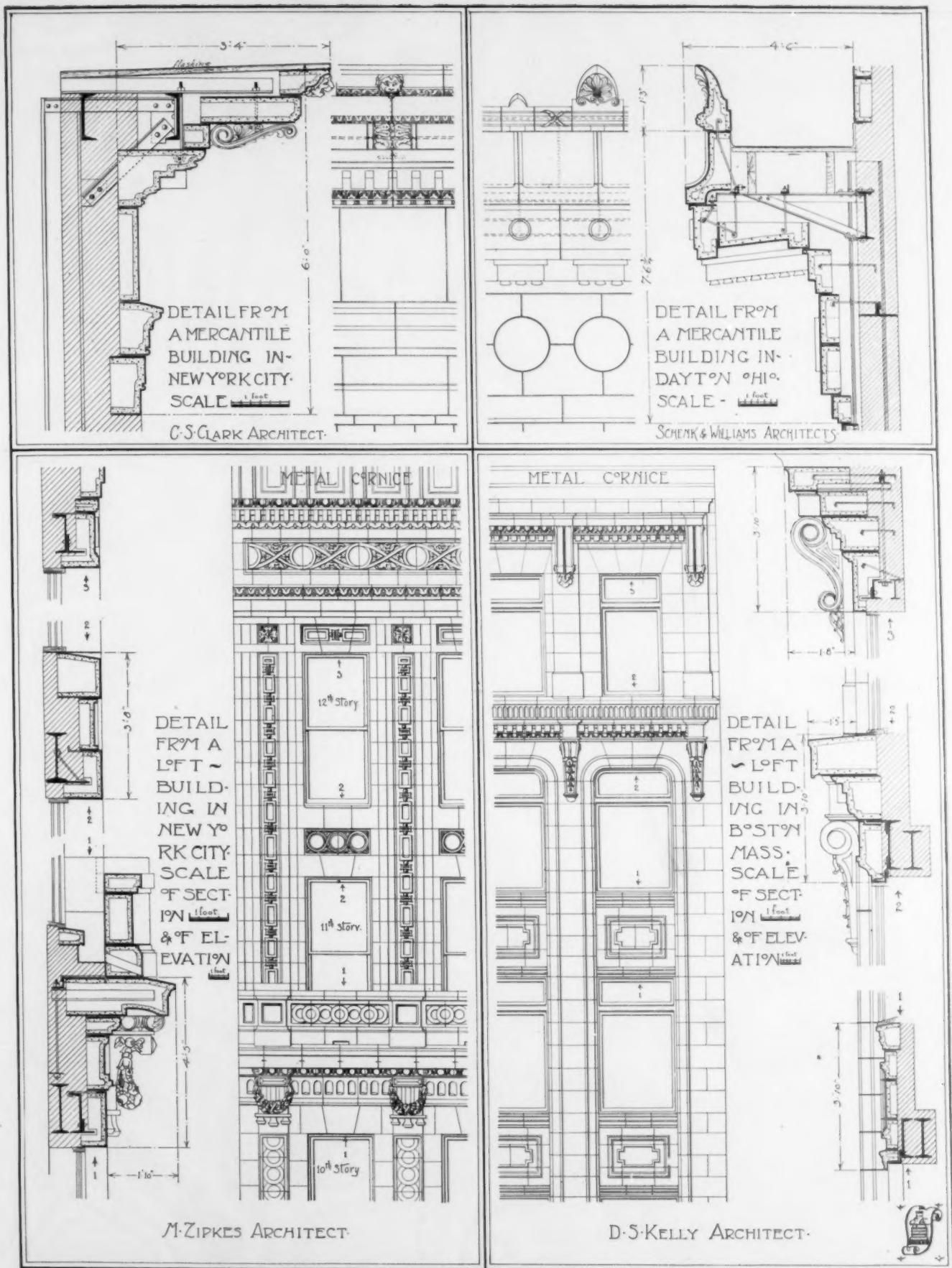




TERRA COTTA DETAILS FROM TWO BUILDINGS.

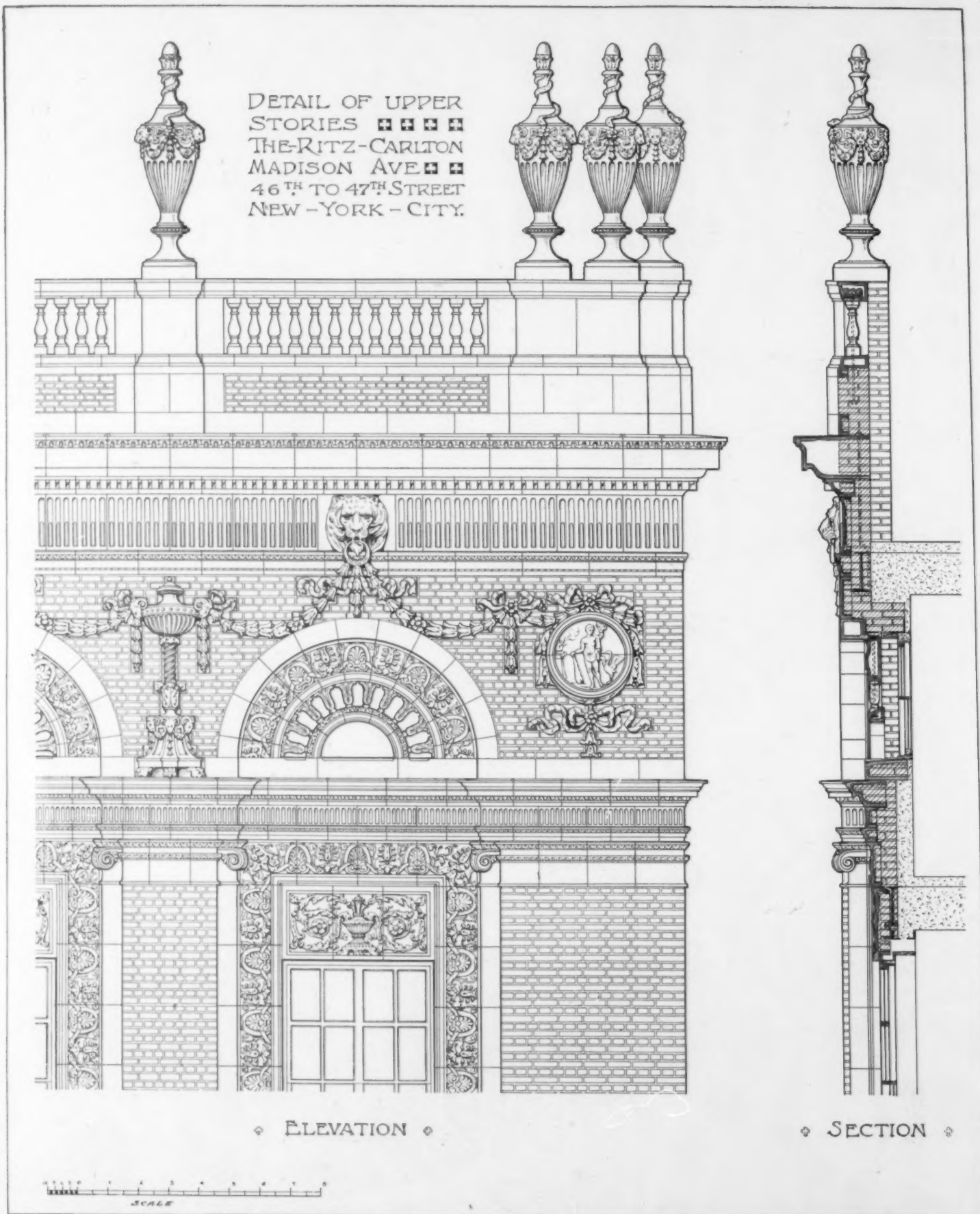
Work executed by the New Jersey Terra Cotta Company.





TERRA COTTA DETAILS FROM FOUR BUILDINGS.

Work executed by the New Jersey Terra Cotta Company.



TERRA COTTA DETAILS, THE RITZ-CARLTON HOTEL, NEW YORK CITY.

Warren & Wetmore, Architects.

Work executed by the New York Architectural Terra Cotta Company.

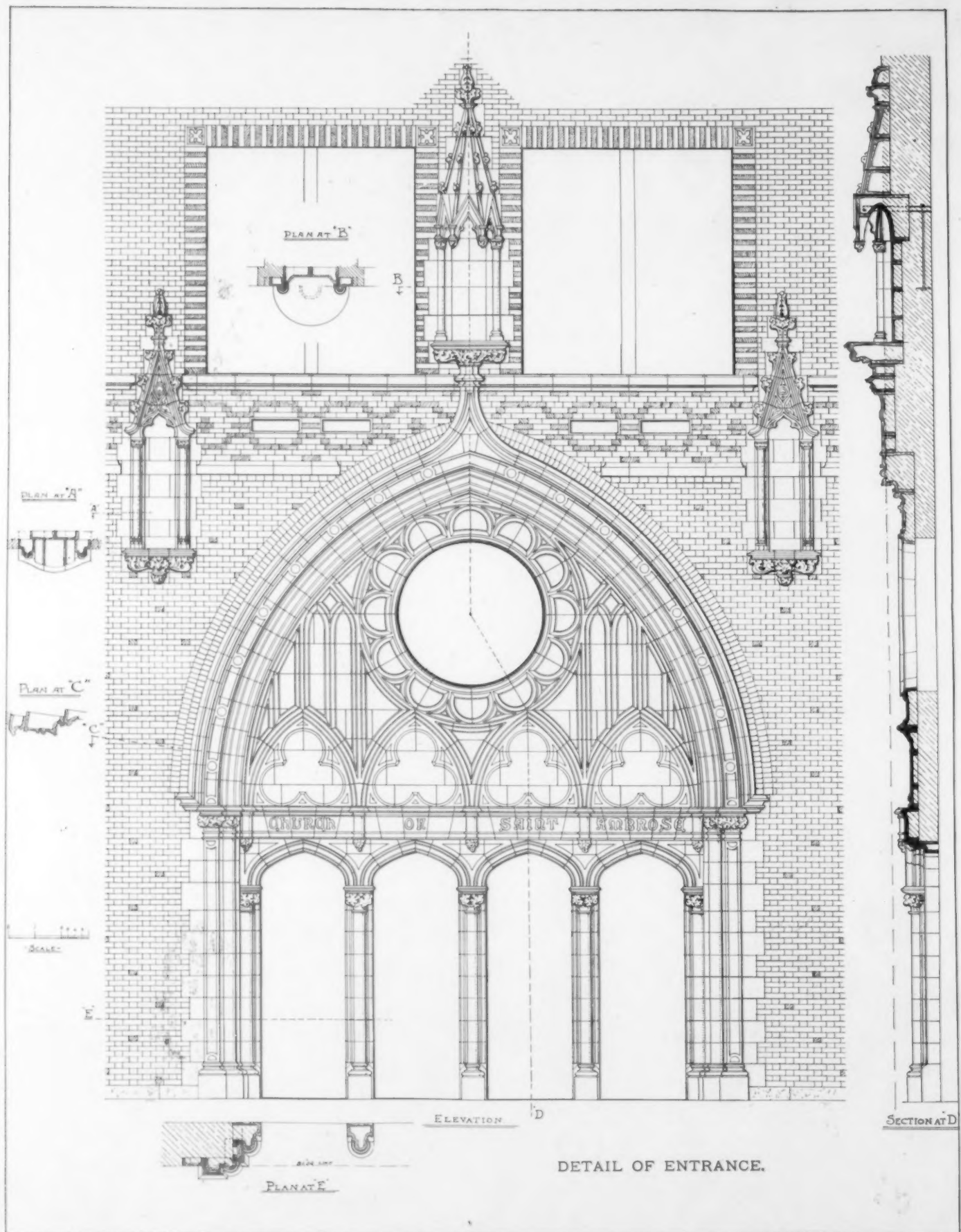


THE RITZ-CARLTON HOTEL, NEW YORK CITY.

Warren & Wetmore, Architects.

Terra Cotta executed by the New York Architectural Terra Cotta Company.

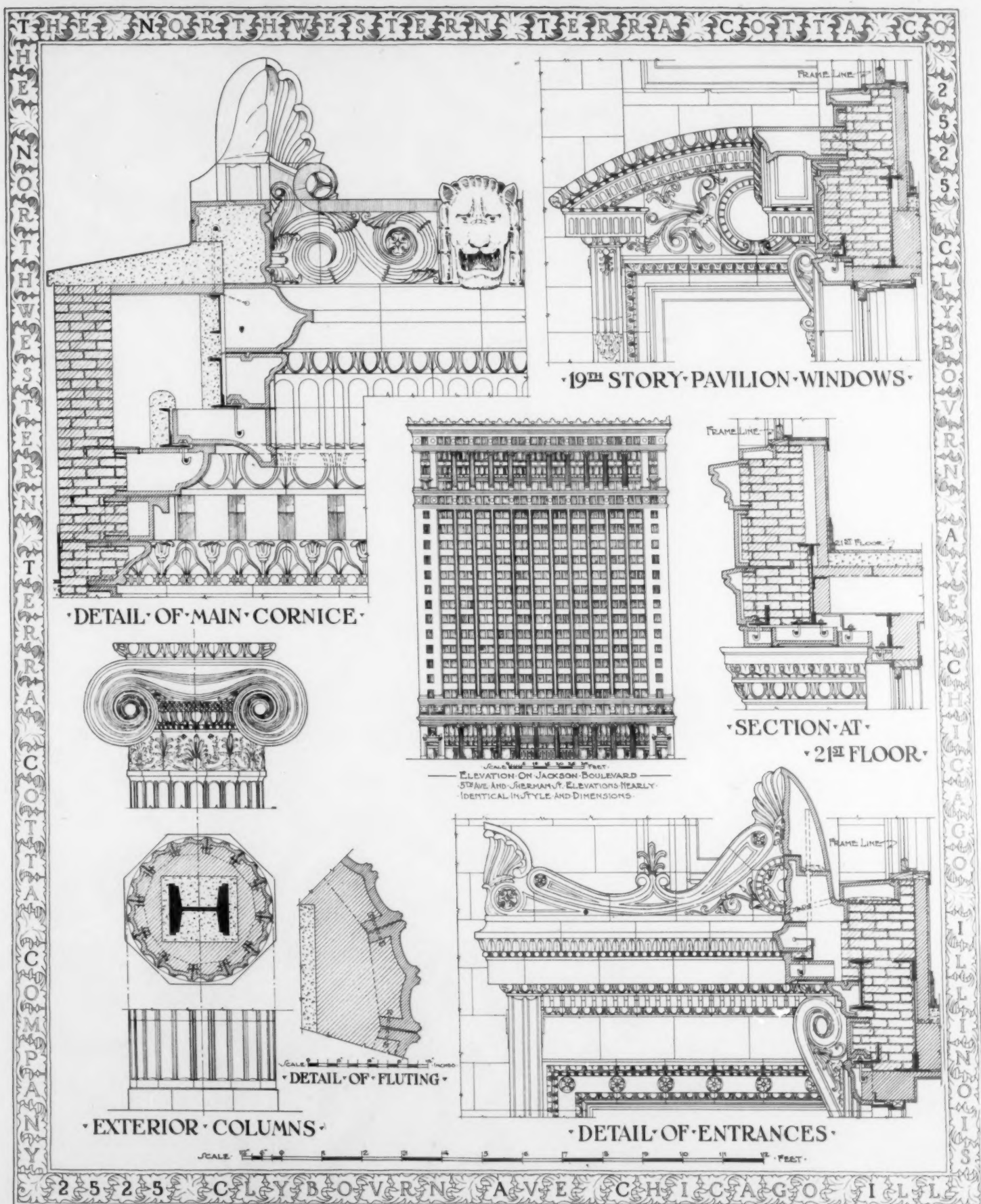




TERRA COTTA DETAILS, CHURCH AND SCHOOL OF ST. AMBROSE, NEW YORK CITY.

John V. Van Pelt, Architect.

Work executed by the New York Architectural Terra Cotta Company.

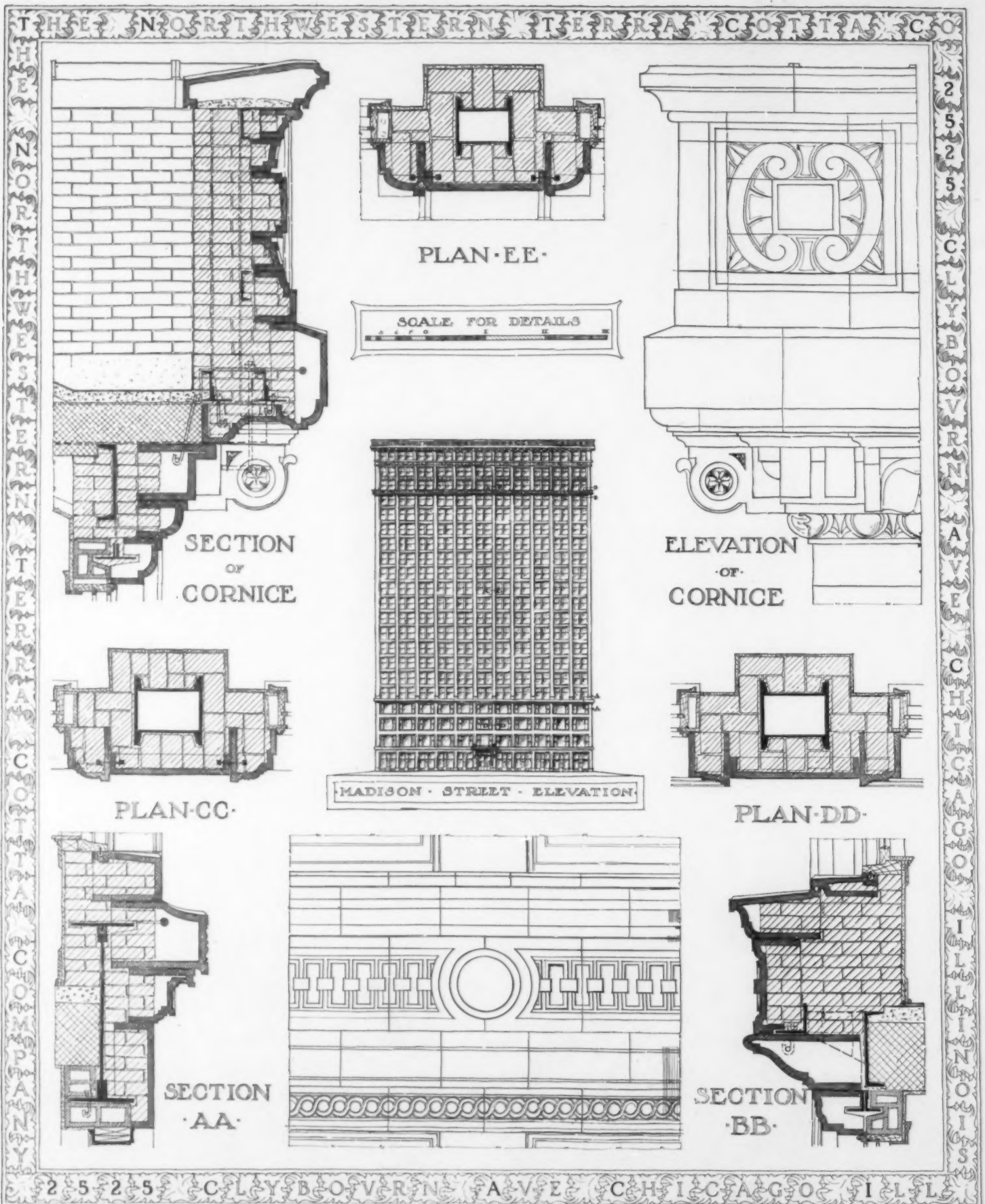


TERRA COTTA DETAILS, INSURANCE EXCHANGE BUILDING, CHICAGO, ILL.

D. H. Burnham & Co., Architects.

Work fabricated and set by The Northwestern Terra Cotta Company.



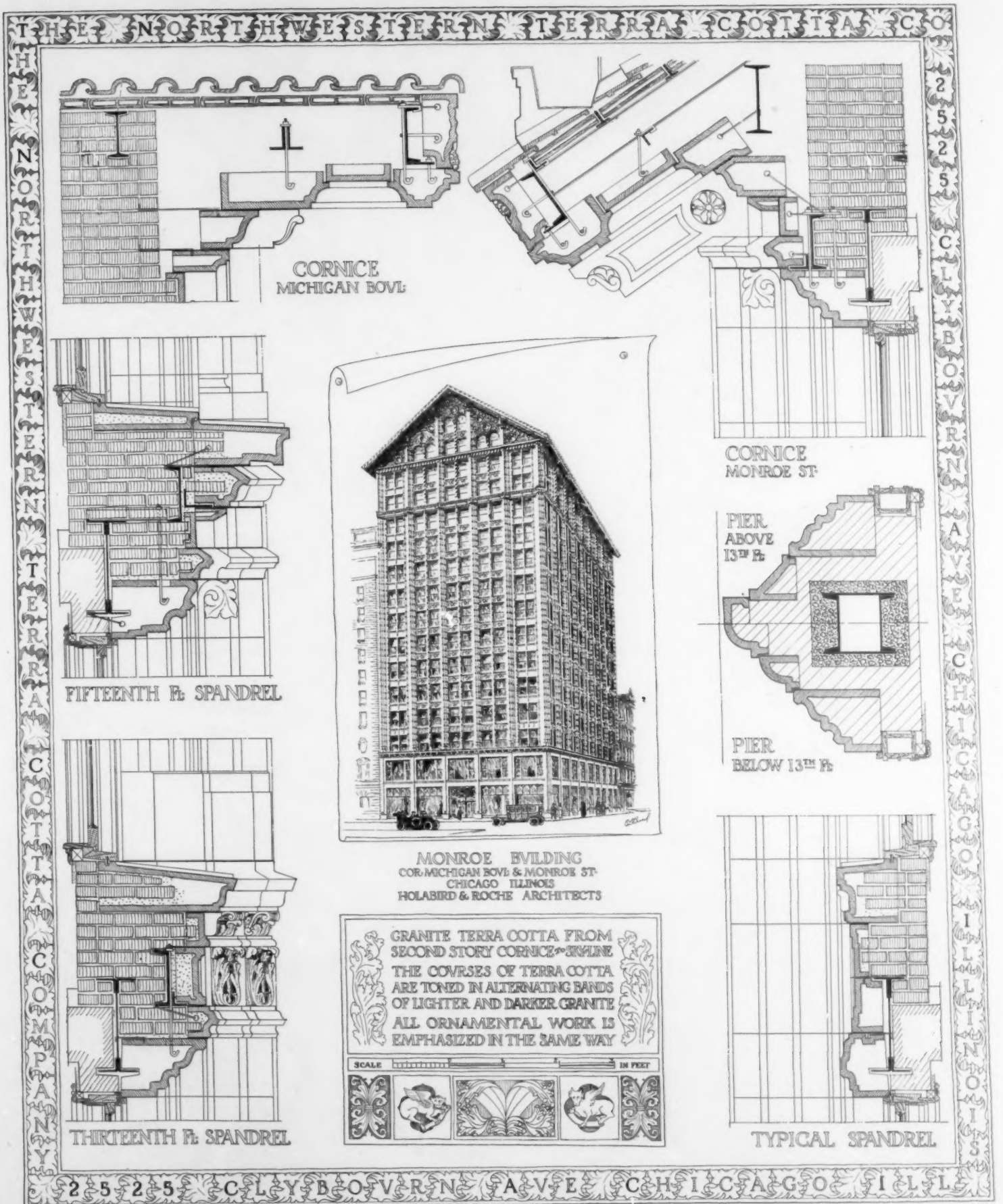


TERRA COTTA DETAILS, MALLERS BUILDING, CHICAGO, ILL.

C. A. Eckstorm, Architect.

Work fabricated and set by The Northwestern Terra Cotta Company.

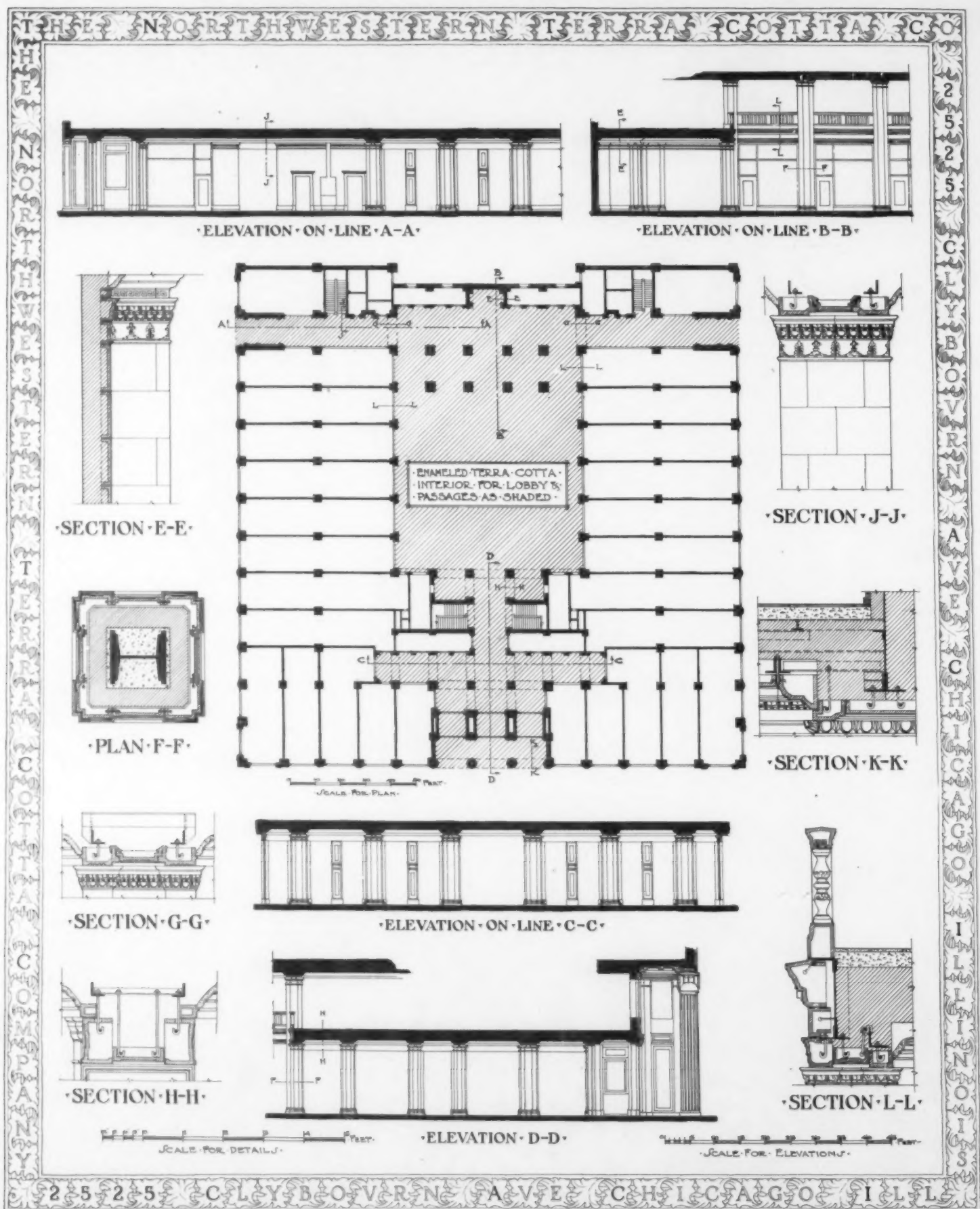




TERRA COTTA DETAILS, MONROE BUILDING, CHICAGO, ILL.

Holabird & Roche, Architects.

Work fabricated and set by The Northwestern Terra Cotta Company.

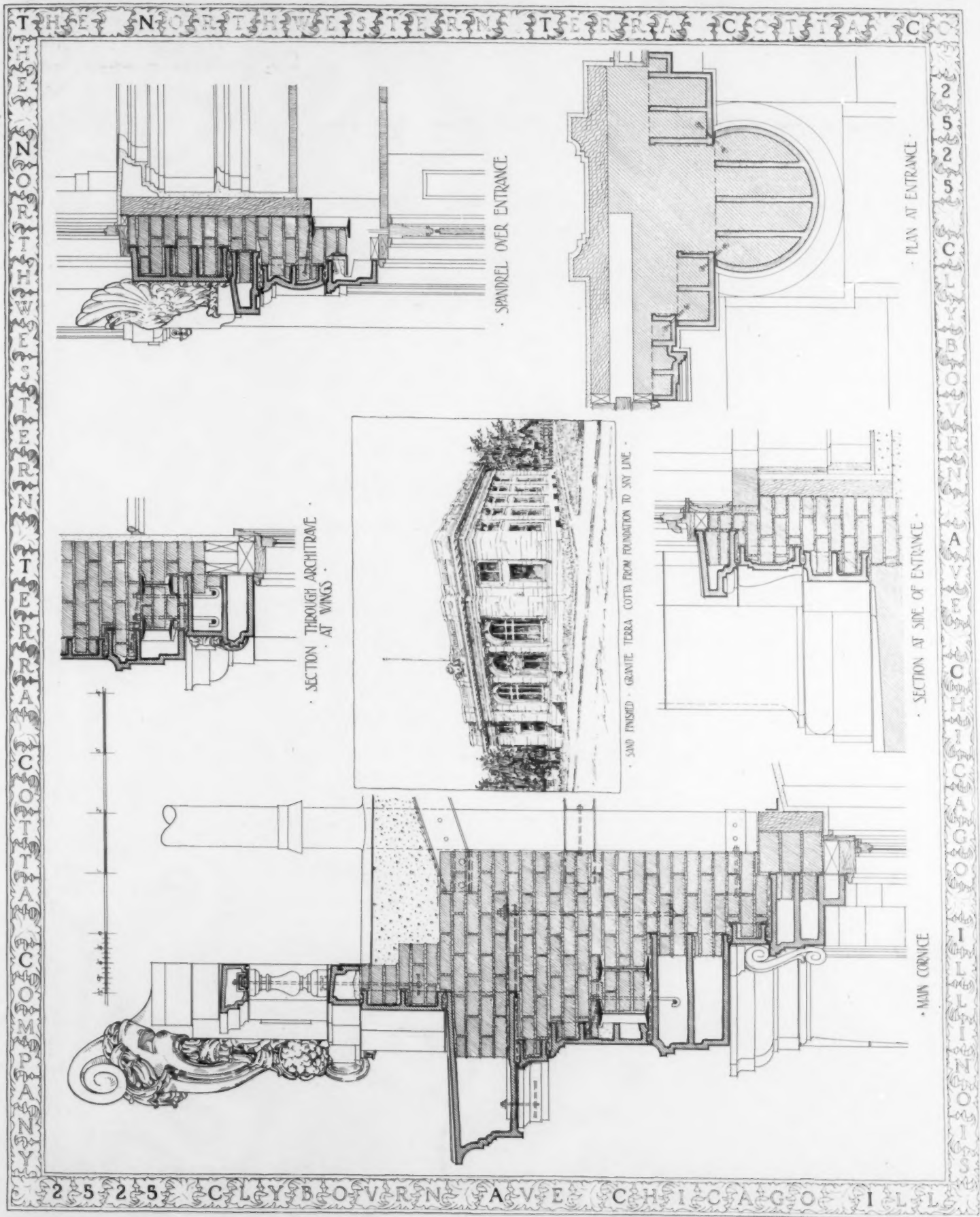


TERRA COTTA DETAILS OF HALLWAYS AND LOBBY, INSURANCE EXCHANGE BUILDING, CHICAGO, ILL.

D. H. Burnham & Co., Architects.

Work fabricated and set by The Northwestern Terra Cotta Company.

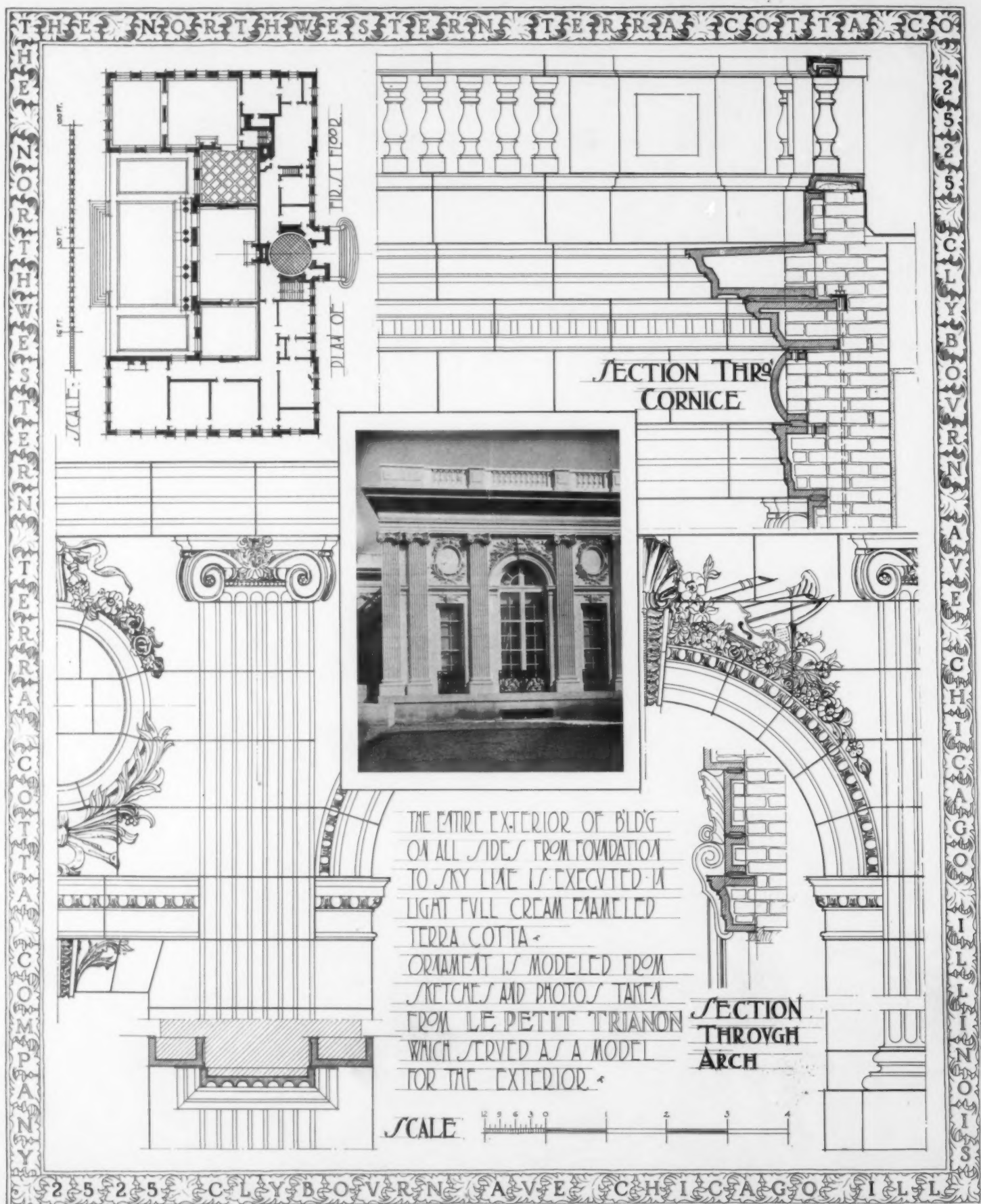




TERRA COTTA DETAILS, UNITED STATES POST OFFICE, NEVADA, MO.  
Work fabricated by The Northwestern Terra Cotta Company.

James Knox Taylor, Supervising Architect.

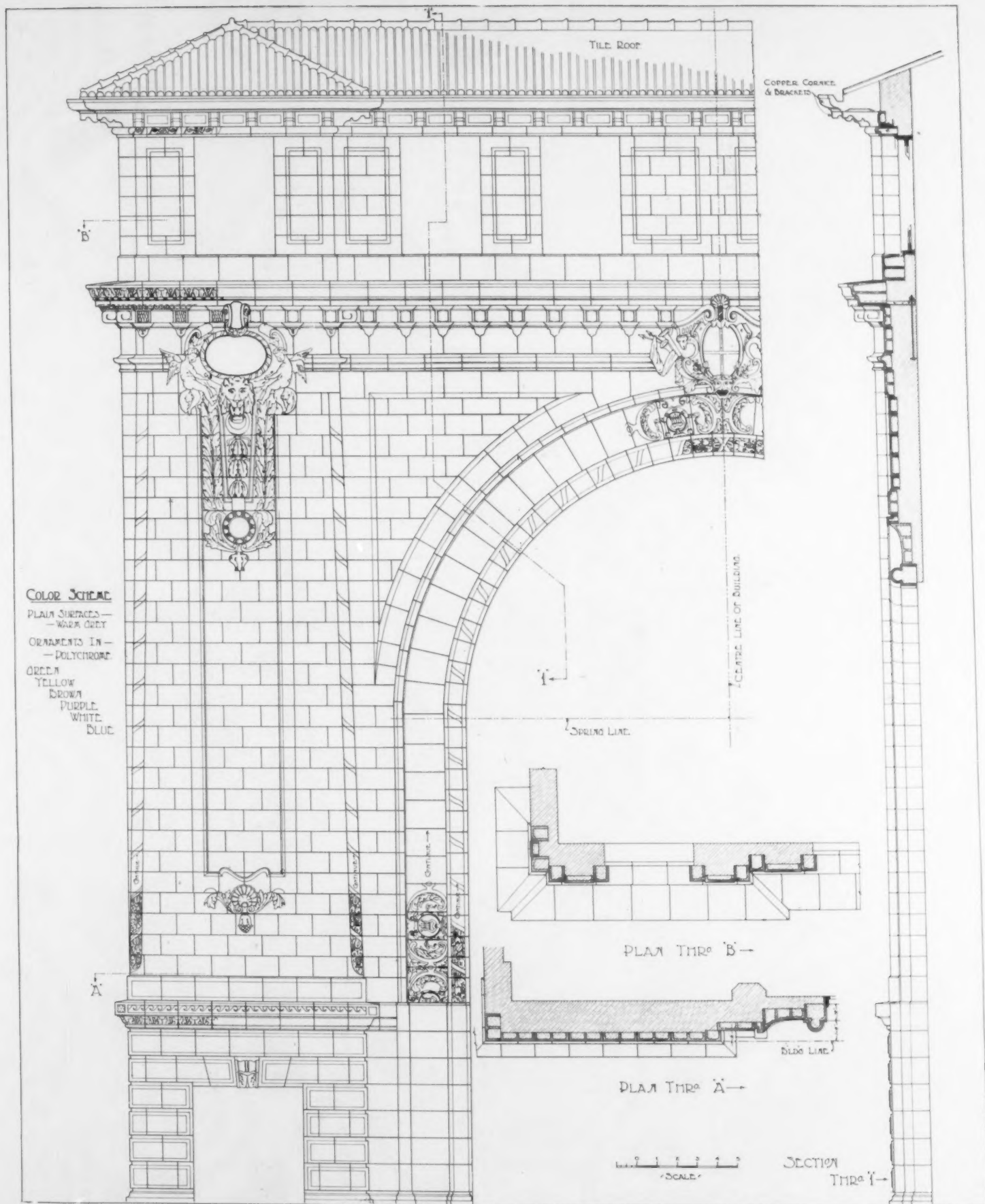




TERRA COTTA DETAILS, BALDWIN RESIDENCE, BROADMOOR, COL.

MacLaren & Thomas, Architects.

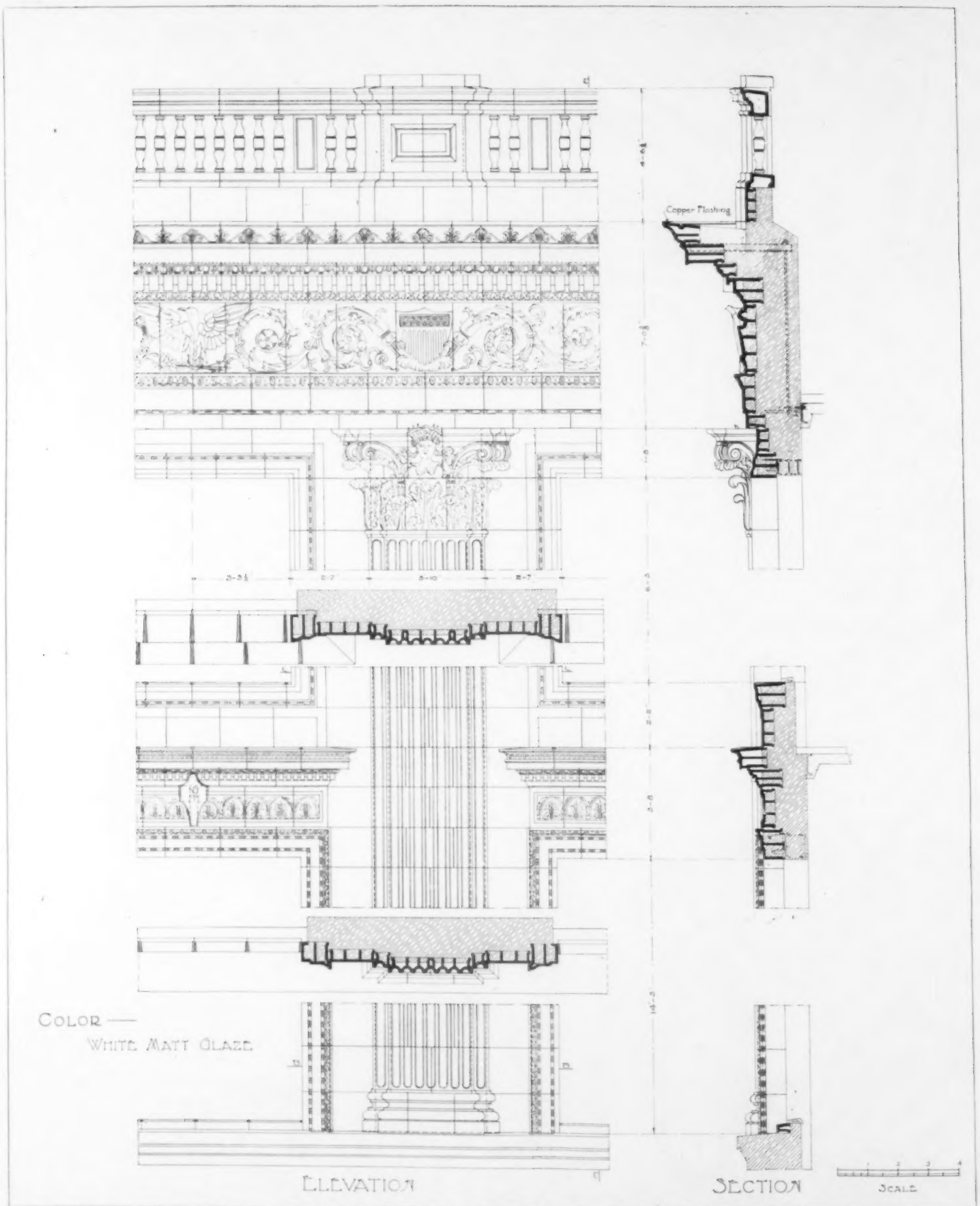
Work fabricated by The Northwestern Terra Cotta Company.



TERRA COTTA DETAILS, THEATER BUILDING, 236 W. 42d STREET, NEW YORK CITY.

Thomas W. Lamb, Architect.

Work executed by the South Amboy Terra Cotta Company.

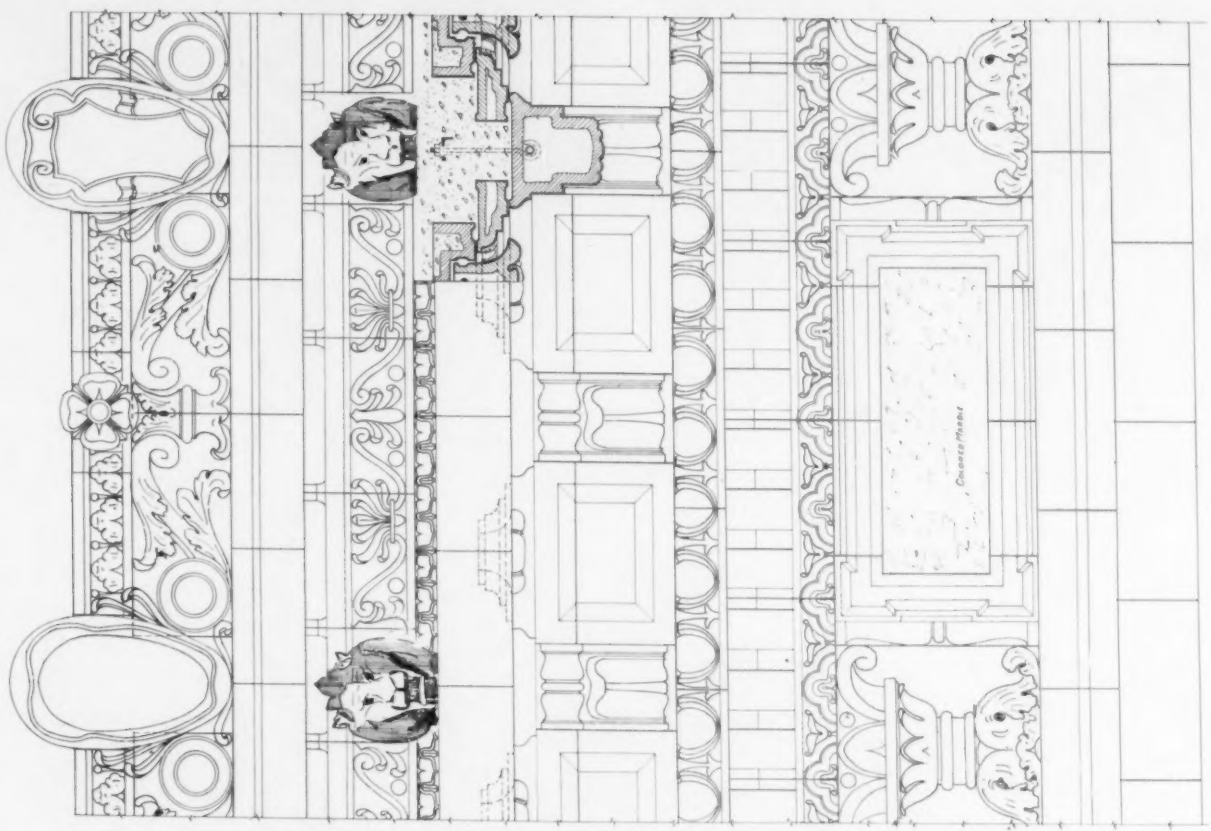


TERRA COTTA DETAILS, NATIONAL BANK, FAR ROCKAWAY, L. I.

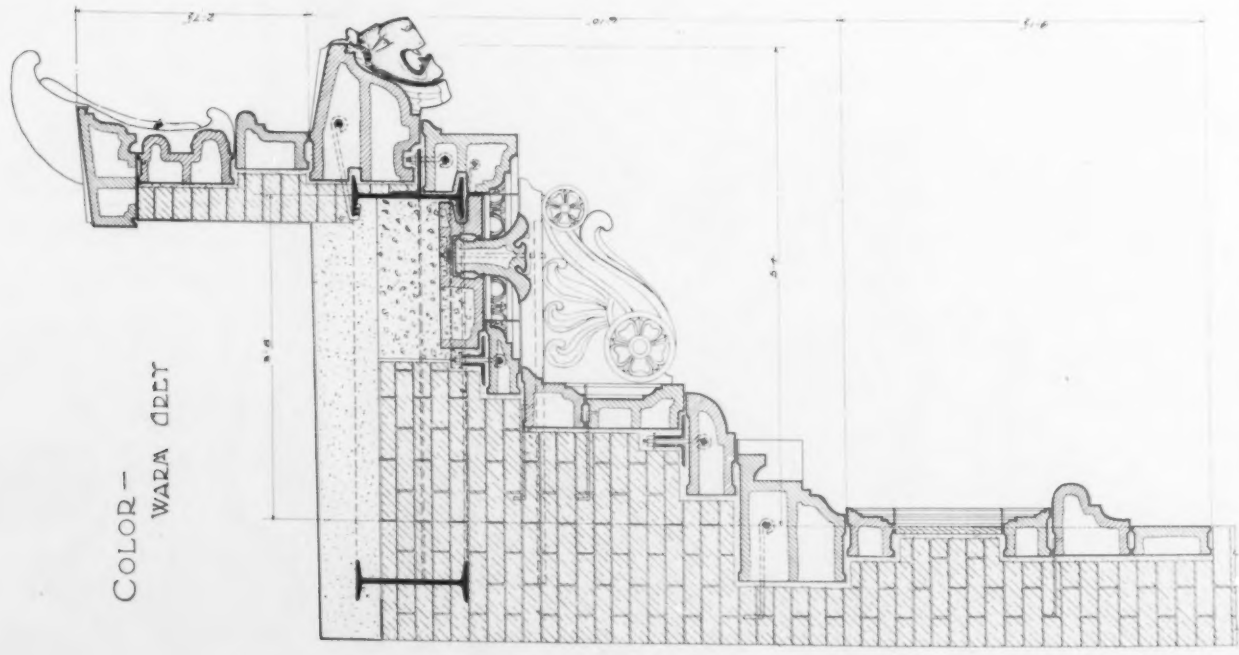
Joseph L. Steinam, Architect.

Work executed by the South Amboy Terra Cotta Company.





ELEVATION



DETAIL OF MAIN CORNICE.

COLOR -  
WARA GREY

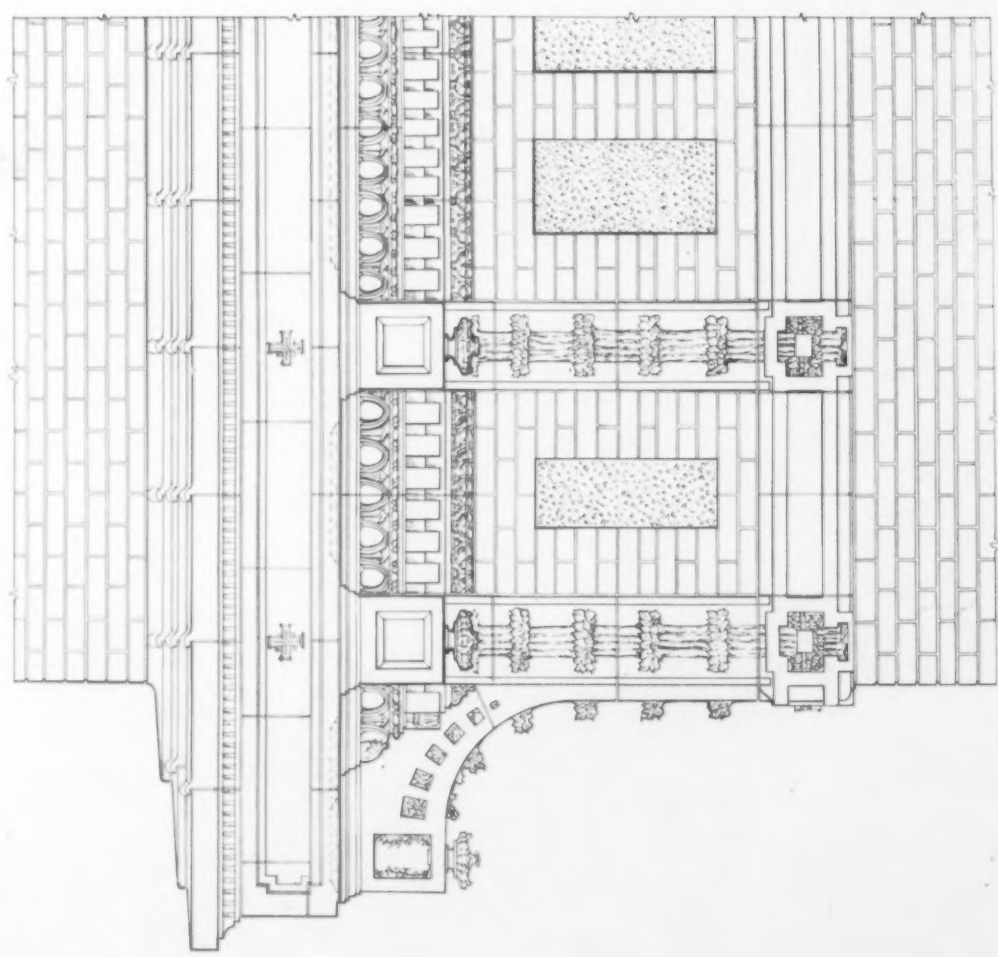
SECTION

TERRA COTTA DETAILS, WILSON BUILDING, NEW YORK CITY.

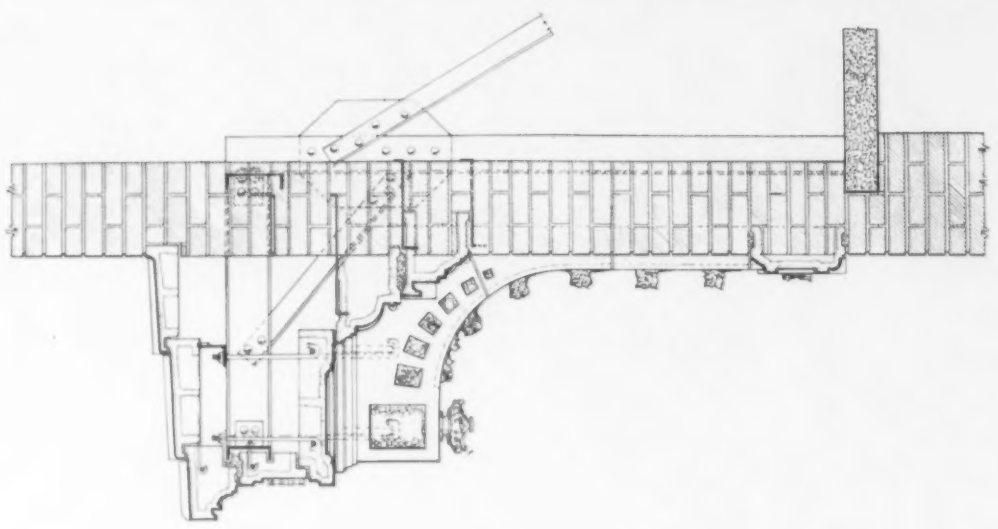
Work executed by the South Amboy Terra Cotta Company.

W. L. Rouse & L. A. Goldstone, Architects.

# CORNICE • CONSTRUCTION •



ELEVATION •



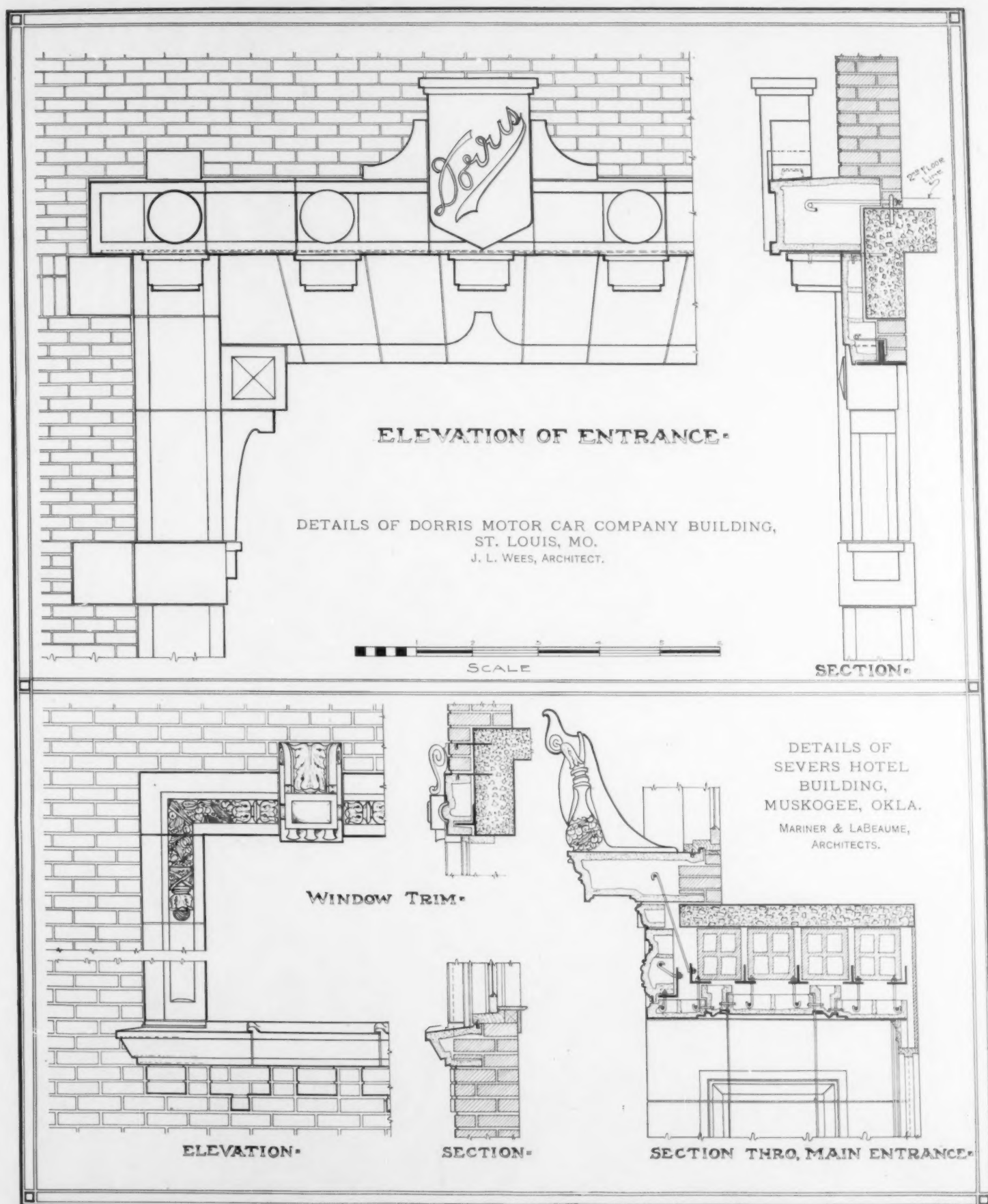
SECTION •



TERRA COTTA DETAILS, IOWA TELEPHONE COMPANY BUILDING, DAVENPORT, IOWA.

Work executed by the St. Louis Terra Cotta Company.

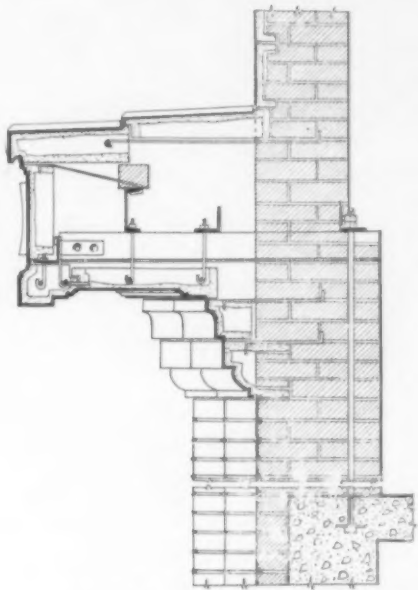
Temple & Burrows, Architects.



TERRA COTTA DETAILS FROM TWO BUILDINGS.

Work executed by the St. Louis Terra Cotta Company.



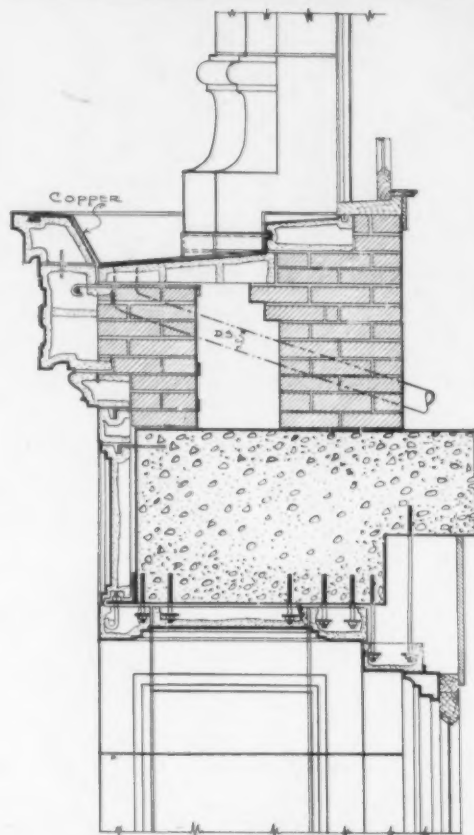


SECTION THRO, MAIN CORNICE •

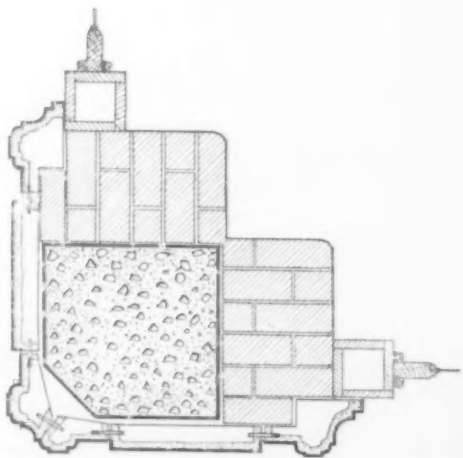
DETAILS OF OSCAR KEELINE BUILDING, OMAHA, NEB.  
JOHN LATENSER, ARCHITECT.



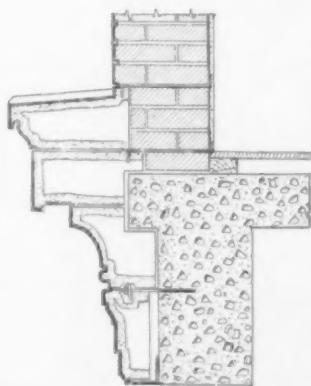
SCALE.



SECTION THRO, MAIN ENTRANCE •

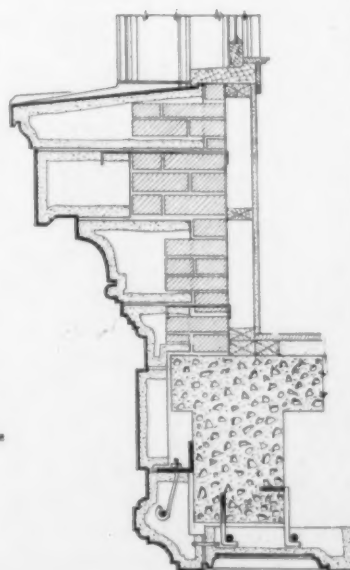


PLAN THRO, PIERS - 1<sup>ST</sup> FLOOR •



SECTION THRO, 2<sup>ND</sup> STORY LINTEL COURSE •

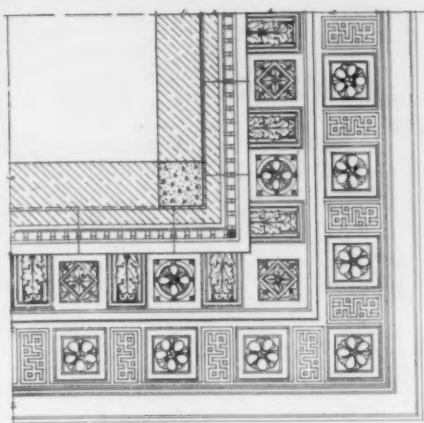
DETAILS OF WM. MOORE DRY GOODS COMPANY BUILDING,  
MEMPHIS, TENN.  
SHAW & PFEIL, ARCHITECTS.



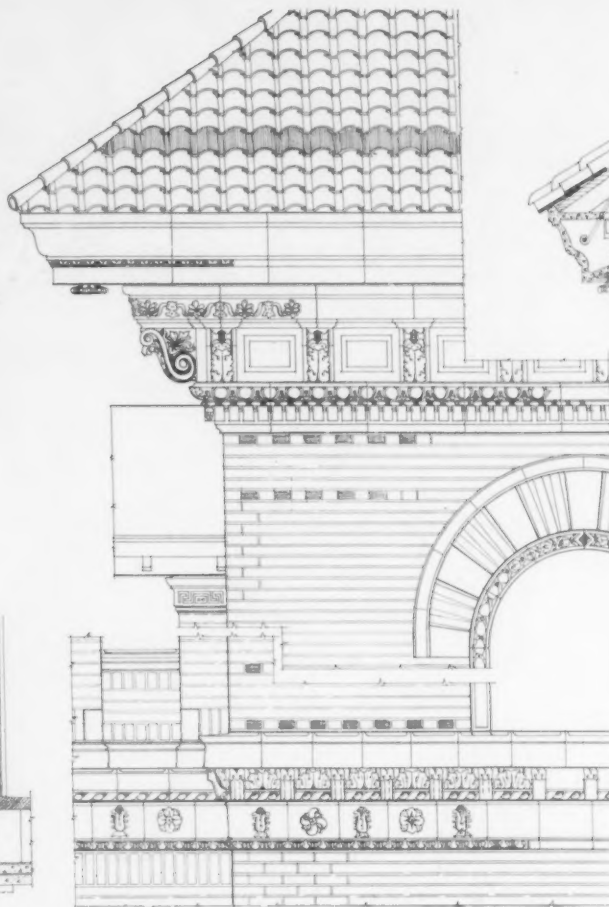
SECTION THRO, 1<sup>ST</sup> STORY CORNICE •

TERRA COTTA DETAILS FROM TWO BUILDINGS.

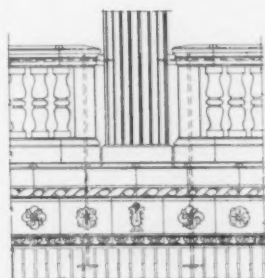
Work executed by the St. Louis Terra Cotta Company.



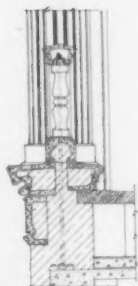
DETAIL OF CORNICE. SOUTH.



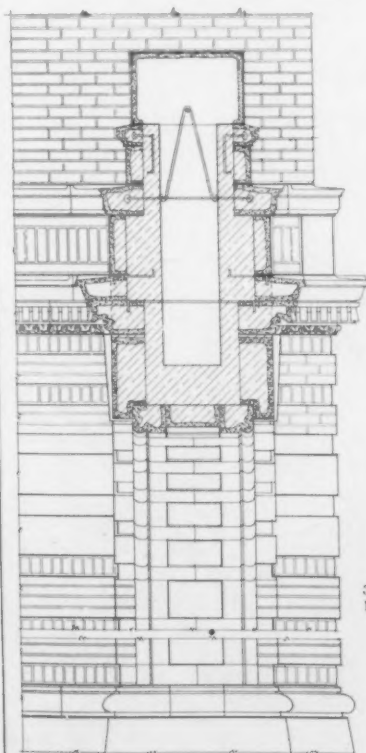
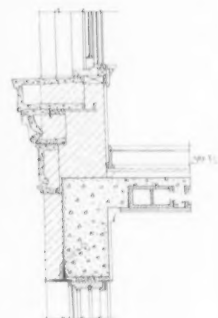
SECTION TWO MAIN CORNICE.



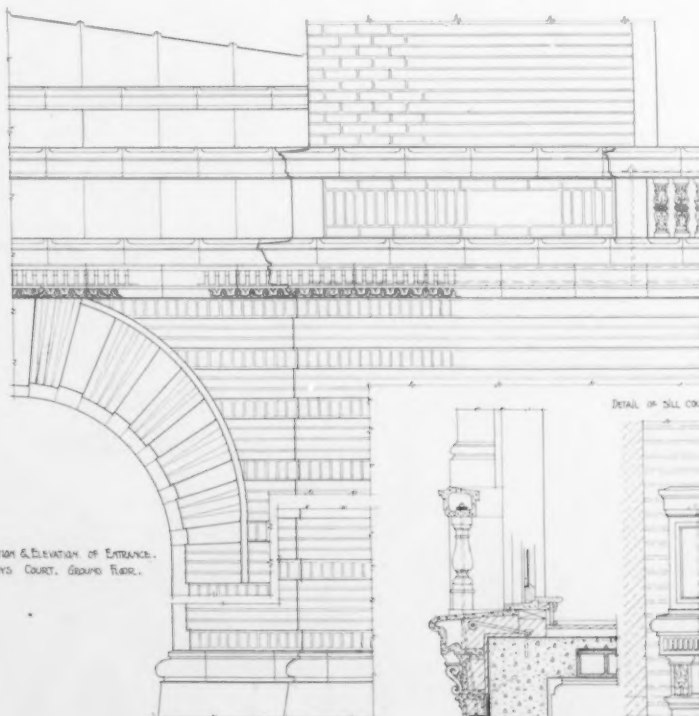
DETAIL OF BALUSTRADE. PLAYGROUND.



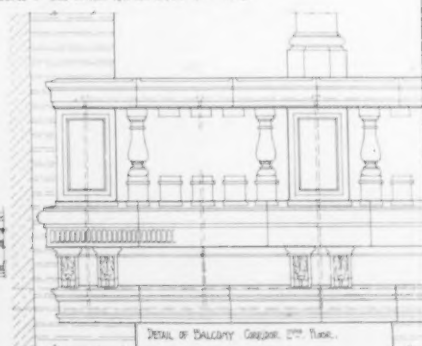
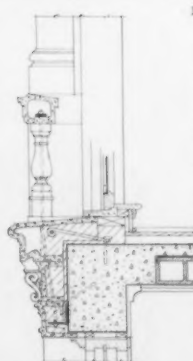
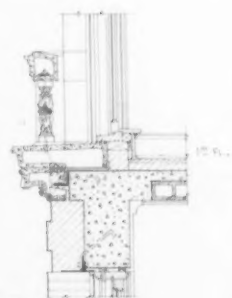
DETAIL OF 2ND FLOOR, SILL COURSE.



SECTION & ELEVATION OF ENTRANCE.  
BOYS COURT. GROUND FLOOR.



DETAIL OF SILL COURSE & BALUSTRADE. 2ND FLOOR.

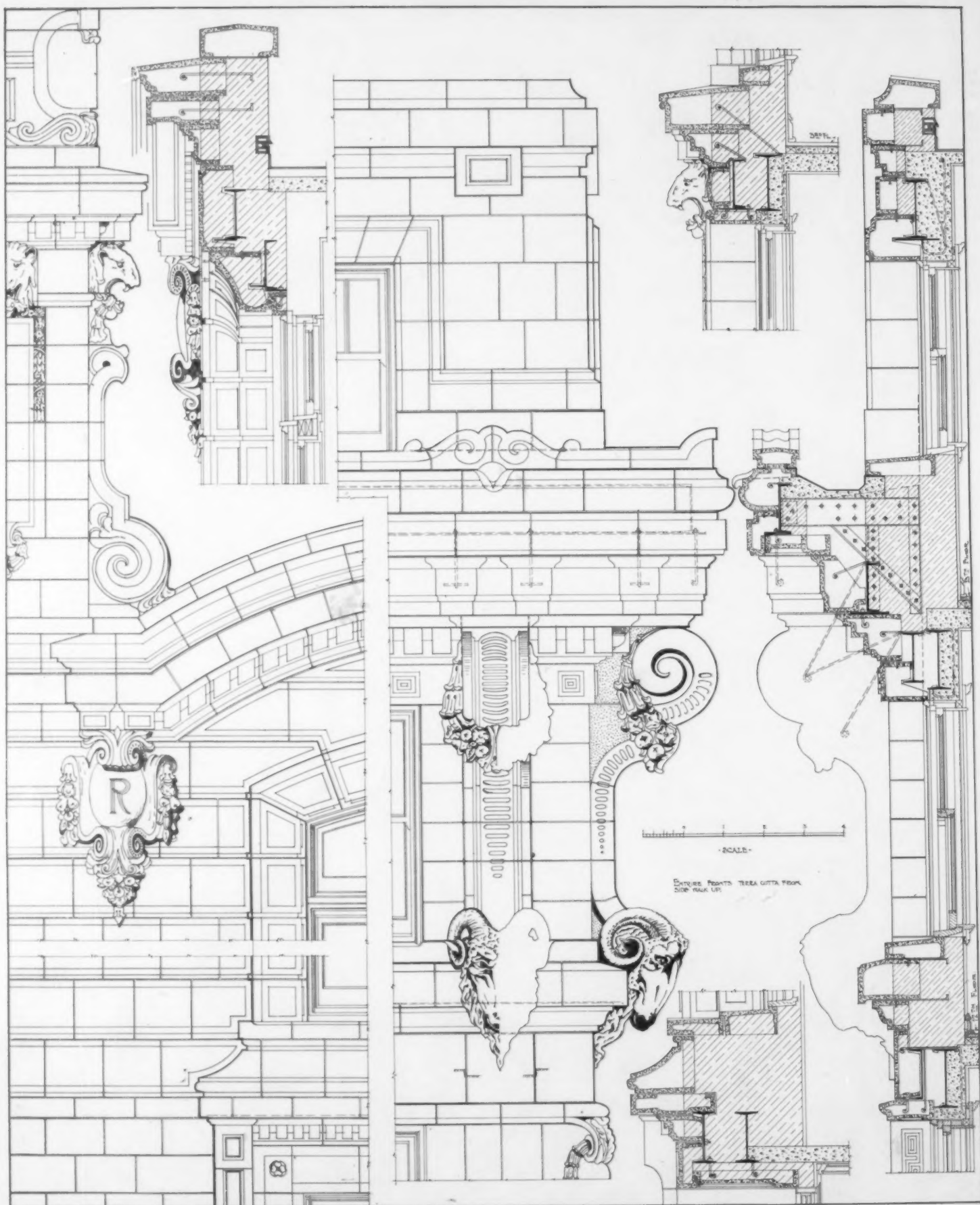


DETAIL OF BALCONY. GROUND FLOOR.

TERRA COTTA DETAILS, GUILFORD PUBLIC SCHOOL, CINCINNATI, OHIO.

Garber & Woodward, Architects.

Work executed by the Winkle Terra Cotta Co.



TERRA COTTA DETAILS, RIALTO BUILDING, KANSAS CITY, MO.

Smith, Rea & Lovitt, Architects.

Work executed by the Winkle Terra Cotta Co.